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ABSTRACT of papers
The concept of mediation continues to intrigue the cultural-historical approach to human action (e.g. Vadeboncoeur et al., 2006). Mediation refers to “the idea that humans always put something else between themselves and their Object of work.” (Bødker & Bøgh Andersen, 2005:362). The most obvious examples of mediation are various sorts of tools such as hammers, drills, axes, etc. Such tools were called “technical” by Vygotsky. He extended the concept of mediation to “psychological tools”, by which he referred to “various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps, and technical drawings; all sorts of conventional signs, and so on. (Vygotsky, 1981:137, cited in Wertsch, 1991:93). Psychological, or “semiotic”, tools are unique to humans and mediate what Vygotsky called “higher mental functions”. Although based on the phylogenetic evolution of a common ‘biological substrate’ of humankind, these functions are ultimately determined by the ontogenetic development of the individual, that is, they are learnt in a particular historical social milieu in time and space.

The distinction between semiotic and technical tools has been questioned (e.g. Leiman, 1999). It is obvious that the use of technical tools make a change in the material world; using an axe to cut down a tree produces a permanent change with respect to the tree. However, semiotic tools also change the world, even if a more indirect way. Perhaps this is most evident when it comes to speech acts (Bühler, 1933; Austin, 1962; Searle, 1969). It expresses the fact that language is used, not only to describe something, but also to achieve something; to act. An example of a speech act is requesting something: “Cut down that tree, please!” Thus, speech acts and other communicative acts can be seen as mediational means that complement more obvious material means for achieving some end.

In order to overcome the unease with the semiotic / technical partition of mediation, other approaches have been suggested where semiotic and technical aspects are more intertwined. In fact, Vygotsky himself regarded semiotic and technical mediation as two focal areas of the concrete universal of meaning (Bakhurst, 1991). The term ‘concrete universal’ refers to the basic ‘germ’ of a concrete totality in which the elements are internal, or dialectically related. Thus, semiotic and technical tools must be analyzed as an indivisible unit, and not as separate elements standing in external relation to each other, i.e., a relation that does not change the elements. Although the obvious differences between technical and semiotic tools, there is a deeper affinity between them: they are mediational means mediating human action, and as such they are intrinsically bound to the
activity in which they are meaningful:
"A tool is also a mode of language. For it says something, to those who understand it, about the operations of use and their consequences. . . . In the present cultural setting, these objects are so intimately bound up with intentions, occupations and purposes that they have an eloquent voice." (Dewey, 1938/1991: 52, referred in Miettinen & Virkkunen, 2005:443)

The purpose of this paper is to continue along this line of inquiry and propose an alternative conception of mediation. I have proposed an elaboration of the AT notion of ‘activity’ into what I call the activity domain. The activity domain is the core construct in the Activity Domain Theory (ADT: Taxén, 2009), which is focused on the coordination of human activity. The ADT was born out of my long-time participation in efforts of coordinating the development of extraordinary complex systems in the telecom industry.

Mediational means used for coordination turned out to be efficient if they were aligned with what I call activity modalities. These modalities – contextualization, spatialization, temporalization, stabilization, transition – denote major dimensions that humans make use of in coordinating actions.

The term ‘activity modalities’ is deliberately coined to resonate with ‘sensory modalities’ (vision, hearing, touch, taste and smell); implying that the activity modalities are equally well grounded in mankind’s phylogenetically evolved biological constitution. Thus, the paper is an attempt to re-conceptualize mediational means by the dimensions given by the activity modalities rather than as technical / semiotic tools.

References
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“Every individual has his own insanity”: Applying Vygotsky’s work on defectology to the question of mental health as an issue of inclusion

Peter Smagorinsky

This paper considers issues related to the intersection of mental health and education. Typically, in both educational and noneducational settings, atypical mental health conditions are described and treated as “disorders.” The author challenges conventional understandings of mental health and how to address it, particularly in school settings. The argument in this essay is designed to make a case for greater understanding of extranormal mental health makeups and to reconsider current understandings of normalcy. Focusing in particular on the experience of living with Asperger’s syndrome, this paper orchestrates narrative data and prior scholarship to argue that conventional notions of normalcy require reconsideration as more is understood about the spectrum of possible makeups in broad and diverse populations. The author argues that notions of normalcy are social constructions and that reconstructions of conventional notions of normalcy could provide more inclusive settings for a wider range of people.

This paper employs a version of narrative inquiry (Riessman, 2008), autoethnography, to explore issues related to the intersection of mental health and education. The author describes, reflects on, and interprets a body of experiential knowledge both to illuminate the experience of living with an extranormative mental health makeup and consider the degree to which it serves as a deficit or disorder, as is commonly presumed. These experiences are placed in the context of empirical data from other studies to frame an argument regarding the spectrum of neurological makeups and its place in efforts toward inclusive and multicultural education.

Questioning Notions of Normalcy

The considers established notions of what it means to be “normal.” While taking into account the problems that Asperger’s syndrome may bring to those it affects, he also argues that the notion of “disorder” assumes an objective notion of an “ordered” personality. The author critiques this notion, concluding that “normalcy” is a social construction through which extranormalcy becomes constructed as a deficit condition.

Ability and Disability

This section further critiques established conceptions of ability and disability by reflecting on the productive possibilities afforded through Asperger’s syndrome, even as it can disrupt life for those affected by it. The author further challenges the seemingly objective diagnostic nature of mental
health by illustrating changes in the American Psychiatric Association’s shifts in classification in such areas as homosexuality, which at one time it described as a mental illness. Mental illness, he argues, remains a human construct that is designed to separate normative from extranormative psychic makeups in order to provide appropriate treatment for those who fall outside the normal range. At times these diagnoses can be beneficial, such as when a person has extremely atypical characteristics that can lead to harm to oneself or others. Yet at other times the designation of one as having a mental illness can produce stigmas long associated with insanity that themselves become at least as debilitating as the extranormative condition itself.

Typicality and Atypicality
This section continues the author’s critique of normalcy, disorders, and disability, and further asserts that all such notions comprise social constructions, while also acknowledging the real problems, such a suicide, that can follow from severe mental instability. The author considers such controversies as the role of medication and counseling in assisting those with extranormative makeups to lead happy lives.

The Educational Context of Neuroatypicality
This section turns specifically to education, framing educational issues in terms of Vygotsky’s (1993) work in the field of “defectology.” Vygotsky (2003) resisted the prevalent mechanistic approach that children with special needs were defective and should be fixed. To Vygotsky (2003), rather than “fixing” the “defect” in the child, an educator should strive to minimize or eliminate any environmental factors that could amplify the effects of the original point of concern. This perspective is extrapolated to current educational practice in the 21st century United States. The author further considers the punitive nature of mental health treatment, with those in the extranormal population treated as deviant and consequently subject to discipline for their lack of conformity. He argues that an expanded notion of normalcy would contribute to more humane environments for those outside the neurotypical mainstream.

Implications for an Inclusive Approach to Education
The essay concludes with an appeal to recognize mental health as part of an inclusive and multicultural approach to education. If culture consists of those historically-grounded practices and the specific tools through which people enact them to achieve historically-established ends (Cole, 1996), then those with extranormative neurological makeups both construct and act within unique cultures that fall outside the current emphasis on race, class, gender, sexual orientation, language, and physical disability. Biologically, many have neurological makeups that produce particular ways of acting in the world. And yet, the author argues, one’s neurological wiring only takes on meaning in social settings, and social relationships can in turn contribute to the path of neurological wiring.
Inclusive education, he concludes, thus requires an acceptance of a wide spectrum of ways of being. For those whose behavior is dangerous, an inclusive approach would begin with understanding and the construction of appropriate settings, treatments, and support toward a more satisfying social future, even when the prospects for independent living toward that future appear dim. For those who appear odd or abnormal to others, an educational setting designed to allow for a broader consideration of acceptable ways of being would fit within the scope of multicultural and diversity education, with an emphasis on inclusion and respect. If fewer people are considered to be, and treated as, abnormal, education will come closer to realizing its goals for an enlightened society. This vision will be manifested both in terms of how the broad class of normal people view others, in light of the opportunities availed to neuroatypicals by means of their acceptance by others, and with respect to the broadened range of learning opportunities available in school. This approach could contribute to a widened vision of what and who are considered and treated as normal, and thus could accommodate a greater range of people in their quest to find fulfillment in their education and their lives.
A case study approach was adopted in order to get a better understanding of the evaluation use. The primary source of data in this study was in depth interviews. A total of four principals, 16 teacher were interviewed and fours students groups. They were all asked about how the evaluation was used, how they had been working afterwards and the role of the principal in this process. The model of external evaluation used by the schools in the study is based on a “perfect picture”, which may be explained as standards or the optimal practice. The schools decide what area they want to evaluate, and the evaluators set up objectives that describe good practise concerning the area to be evaluated. This standard is presented to the school, which discuss them, and if they agree – approve. The standards are based on criteria from curriculum, legislation or the schools own documents. The evaluators gather data by interviewing teachers, parents and students, observing lessons and maybe hand out a questionnaire. Based on the data, they write a report about the school describing signs of good practise, and pointing at practise that needs to be improved in this specific area. They also give some advice about what to do. The process last for four days, on the fourth day they present the report for the school. After the presentation it is expected that the school follow up the work, by working with school improvement based on the evaluation.

The schools in the study very much follow the same path when it comes to approaching the evaluation result. They ask them self, what do we think about the result, and what we want to follow up in our further work. There are som differences in how this is done. The extent of involving the teachers in the analysing process differs, from involving teachers in the entire process to the principal doing it alone. But the extent of reflection is very much the same – they don’t question the evaluation result. They don’t use much time analysing it, netiher to discuss it or reflect on it.

Elmore (2000) claims it is important to use evaluation of teaching and student performance to improve school. To manage the teachers need to develop their competence and skills, and to engage in analyzing and understand why something work and others doesn’t. It’s not just about doing the things right, it’s also about doing the right things (Rogers & Williams, 2008).

Argyris & Schon (1998) distinguished between single loop and double loop learning. While single loop learning might help the school to improve the way are working with a particular issue, but double loop learning requires a rethinking whether that issue was appropriate, or if they maybe should reconsider and find other way to approach the issue. Argyris& Schon also defined deuteron
learning – learning to learn. It can be important to look back, and think about why they chose that way of approaching the issue in the first place, and what they have learned from it, in order to focus at how to improve learning as well as practice. It should be close relation between evaluation and pedagogical theory (Dahler-Larsen, 2006). A new notion is “proflection”, while reflection means to go back to look at what has happened, or been said, proflection mean to look forward based on the reflection. In the proflection phase theory can be use to get a better understanding of the reflection (Postholm, Moen, 2009). Leading change is to create now settings conductive to learning and sharing that learning (Fullan, 2001). To reflect on the evaluation results and use theory to better understand it requires time, and the focus of the evaluation need to be clear from the start so that time. Is it for learning and improvement there is much work to do after the evaluation is done, and this need to be facilitated.

External evaluation do not involve teachers in the implementation of the evaluation, the data are collected by others, and som the analyses of the data. This makes it even more important to use time to understand the finding, and to understand what assumptions, and practise theory lies behind the schools teaching practise. And in order to facilitate this approach of the data the principal need to engaged, and set off time and support the process som the purpose of the evaluation is set on organisational learning from the start. This demand knowledge and expertise in how to use the evaluation.
This proposal reports on a qualitative investigation of distributive approaches to the development of curriculum leadership among teachers in Hong Kong and Japan schools. The study is framed within a growing body of international research that seeks to understand the different modalities of practice in which leadership is distributed to include teachers in curricular and instructional improvement. Influential scholars from the US (Spillane, Louis), Canada (Leithwood, Mascall), Australia (Gronn, Crowther), and the UK (Day, Harris, MacBeath) have argued that distributed leadership represents the most significant new trend to emerge in the practice of school leadership in the past 20 years. However, they have yet to articulate a model of the different possibilities for such distributed practice.

The generic global policy trend is mirrored in Hong Kong as well. Interest in teacher leadership grew among Hong Kong educators during the 1990s in concert with the system-wide implementation of school-based management. Recently, particularly in 2002, new educational policies formalized distributed curriculum leadership roles for teachers in Hong Kong primary and secondary schools. These policies reflect the increasingly accepted international view that sustainable school improvement requires the development of greater capacity for teacher leadership. These trends have also been observed in Japanese schools.

This proposal will focus on how teacher learning is enhanced and/or constrained in decision-making processes and, in particular, how decision-making responsibilities are distributed among teachers to allow the emergence of leadership. Videotaped observation and interview data will be collected within six subject-based curriculum development teams in three primary and three secondary schools in Hong Kong and Japan over a period. The research will analyze the emergence of different leadership patterns among teachers, employing discourse analysis, activity theory, and knowledge creation learning theory.

The proposed study explicitly builds upon the results of three prior investigations of teacher leadership conducted by the lead researchers in Hong Kong. These qualitative studies discovered that teacher participation in curriculum decision-making led to observable gains in professional learning among groups of teachers. The findings also identified sociocultural factors as important mediators in the exercise of new teacher leadership roles. The proposed study seeks to extend these findings by exploring in greater depth the impact of sociocultural factors on the development and exercise of distributed leadership in Hong Kong primary and secondary schools. Although distributed leadership assumes different forms within different pedagogic modalities, this research
will seek to provide an empirical foundation for the development of a generative theoretical model of distributed leadership.
The research delves into the dilemmas of change and development within a voluntary project entitled ‘Accompagnement Mere-Enfant’ (Mother – child facilitator). This project has as its object the facilitation of the integration of displaced mothers into the surrounding socio-cultural environment. The tool or mediating factor is homework around which a voluntary person intervenes on a 2 hourly weekly basis with a child of a displaced family (mothers) that is encountering difficulties at school. A change laboratory was conducted on a two hourly monthly basis for the period of 10 months with the persons that conceptualized the above project.

I have conducted research on the problematic of displaced families and schools for the past 9 years. Initially I was a voluntary facilitator within the ‘Accompagnement Mere-Enfant’ project. After several months the voluntary facilitators reports made it apparent that the project had several problems. The method of change laboratory has as its function to facilitate change within an activity or between activities through overcoming historically embedded contradictions by designing new ways of working. My main interest of running a Change laboratory within this research climate was to observe change and development around the thematic of integration. My fundamental analytical approach explores a central theme of cultural diversity in general and more specifically the ‘strategic point’ where several cultures meet. Much research on integration is top down (Newnham, 2006). Change laboratory is a method that works horizontally and vertically from the inside and the outside I therefore needed to find a way of analyzing this process that maintained its dialecticality. In order to understand the construction of the concept of integration I began with Leontiev’s (1981), words: ‘consciousness is not given from the beginning and is not produced by nature: consciousness is a product of society: it is produced….Thus the process of internalization is not the transferral of an external activity to a pre-existing, internal ‘plane of consciousness’: it is the process in which this plane is formed’. It therefore stands that perception of otherness is a socio-cultural construct. Under such light it would appear pertinent to address a meeting point (strategic point) between cultures around a theme which is central to a society as such a theme should theoretically house a dominant social consciousness which would inevitably transcend other activities. In the socio-cultural-geographical area within which this research was conducted, ‘doing homework’ is just that kind of theme. The emerging contradiction did not find itself in the mediating tool but in the overarching perception and place of otherness. Through the process of Change laboratory the subjects of the activity became significantly confronted by its emerging contradiction which the research revealed as being rooted in collective memory (Middleton & Edwards, 1997), and social
discourse (Hasan, 1996). The project creators came to the conclusion that their project was embedded in a socio-cultural system that had to accept refugee persons due to international conventions but that desired them to remain invisible, in other words ‘we have to have you but we don’t want to see you’. This contradiction was becoming painful in the form of the school children. Whereas parents could be maintained invisible, school children were visible and partially representative of the education systems productivity (Nouvelist, results of Pisa, 2003). Furthermore they only had theoretical understanding of what the refugee mothers experience on a day to day basis and finally the voluntary persons working as facilitators in the mother child dyad were mostly retired and had constructed their concepts of otherness during a historically period when the region was relatively closed to the outside world partially due to its geological construction.

Historically, radical social change has only taken place once the actual situation became untenable for the participants. I tentatively suggest that the project creators were not confronted with such a situation. While new designs of their activity were created, these revolved mainly around tangible tools and to a lesser degree of their psychological disposition towards the mothers’ socio-cultural worlds. They could not engage with the notion that the mothers’ concept of integration was not synonymous with those of the project. Furthermore, the voluntary workers had difficulty conceptualizing that ‘doing homework’ was not a central socio-cultural theme to the mothers and found them lazy or lacking in initiative.
This article is based on a follow-up study of an R&D work project conducted in a teacher team teaching students in the eight, night and tenth grade, completed two years earlier. The research question during the R&D work that was developed by the teachers themselves was: “How can various work methods with the focus on learning strategies contribute to each student’s subject and social development?” The purpose of the follow-up study was to find out what the practitioners find they have learned during the project and how they experience the situation with regard to development about two years after the project has ended. Data to answer these two research questions was gathered by interviewing the three school leaders one by one and in a focus group interview, and by interviewing the team leader that was one of the teachers. Additionally data was gathered by using questionnaires answered by all the teachers.

The data show that the teachers have a positive experience when they plan, accomplish and reflect on their teaching individually. They have also learned that having a collective focus on learning, observing and reflecting together, is useful for the development of their teaching. Therefore they now lobby for more time to do this. According to Newmann, Rutter & Marshall (1989), the teachers’ knowledge of each others’ courses and a focus on improved practice were, in addition to orderly student behaviour, the factors that have the strongest relationship to a teacher’s sense of efficacy. It is also stated that acquiring knowledge and solving problems in groups rather than individually fosters higher levels of commitment and satisfaction (Slavin, 2006, Johnson, D.W. & Johnson, F.P.). Thus participation in collaborative work increases commitment and satisfaction among teachers, but according to Elmore (2000) it is unlikely to result in changes in the teachers’ practice, skill or knowledge in the absence of a clear organisational focus on this. Improvement occurs through organised social learning (Leontév, 1981, Engeström, 1987, 1999). The headmistress at the school in this study wonders how the development process will proceed when resources are not available so that teachers can observe each others teaching, even in such a positive culture as they have. According to Elmore (2000), improvement work should be based on direct observation of practice, analysis and feedback. It is precisely this activity the teachers are asking for, and the team leader clearly expresses that they have experienced learning by partaking in such activities during the R&D work project.

According to Elmore (2000), leaders in a distributed leadership system should buffer teachers from
extraneous and distracting non-instructional issues. The headmistress states that the teachers want to work on classroom activities, also outside the classroom, and that the teachers have found development work to be meaningful when it is focused on concrete practice. It also seems that the teachers have found a connection between the work on assessment, which is required from the national authorities, and learning strategies, decided by themselves to work on, during the work on criteria and goal attainment. The work with learning strategies had really been an issue which the teachers have brought further as part of their practice, as one of the deputy heads states, but they really seem to prefer to have this focus in the foreground, not in the background, although this topic had been worked on for four years. Elmore (2000) found that a continuity of focus on direct instruction is decisive for improvement. I will add on the basis of this follow-up study that teachers also prefer continuity with regard to the focus they have when planning, accomplishing and reflecting on concrete practice. This was visible when the teachers argued that they wanted to take part in a whole day course on learning strategies.

The teachers wanted the entire teacher team, including the new teachers, to take part in the course, arguing that all of them should have the same understanding or intersubjectivity (Tomasello, Kruger & Ratner, 1993) with regard to learning strategies. The school leaders also came to that the same conclusion, but it is obvious that the new teachers had not explicitly heard about the project or the work the teachers had been doing. It could be and hoped for that the teachers had internalised this and made it part of their daily practice, as also the questionnaire indicates, but the leaders’ task should be to create opportunities that let the teachers show how they think and act to each other to develop and improve practice to enhance the students’ learning. This means that action learning (Revans, 1982; 1984) or the expansive learning circle (Engeström, 1987; 1999; 2001) that was used as a tool in the development work during the project should be repeated regularly within the teacher staff meetings. In this way, the teachers could develop a common understanding on how they can learn collectively, which is seen as an effective way to achieve professional development (Elmore, 2000, Kwakman, 2003; Lohman & Wolf, 2001; Postholm, 2008b). This means that the school leaders must value and see the importance of a social form of learning, lay the premises for a division of labour between all teachers and leaders, and create conditions that lay the premises for such a way of learning as both an individual and collective good.

The follow-up study shows that if a project is to have a chance to develop further, all participants should be included in the ideas of the work, and act on a common objective. In this way, colleagues and school leaders could form a community of development (Wenger, 1998). Furthermore, learning work in the classroom enhanced by a social form of learning among the teachers should be the main focus of both the teachers and the school leaders. This means that teaching and learning should be the focus both outside and inside the classroom, as stated within the framework of the theory of distributed leadership.
Developmental work in Finnish universities of applied sciences is mainly carried out in R&D projects involving teachers, students and practitioners. Writing in the projects mainly manifests itself in the form of various kinds of reports written by teachers and students, typically after the project has finished. As a result, teachers and students write apart from the project but not within the project. The potential of writing in supporting the developmental work has thus remained unused. The prevailing “report” genres have not made it possible to share the results gained in the projects with other educational institutes, and especially with the employment sector. Writing is mainly interpreted in light of its exchange value: the finance and grades.

Traditionally, the challenge of developing writing in European higher education has been met by organizing writing courses that aim at producing a kind of writing ability or strategy (e.g. Björk, Bräuer, Rienecker & Jörgensen 2003). The cultural-historical activity theory (Engeström 2005) turns attention from the language of the text, or even the creative process of the authors, to the cultural-historical activities that texts mediate (Bazerman & Russell 2003). In order to develop writing in universities of applied sciences, the following question has to be posed: How to bridge the gap between the project activity and writing? What kinds of tools and models are needed to interpret writing in the light of its use value, to make the results of the projects operational for those professional groups and institutions that are interested in them and may use them?

Engeström (2008) has proposed a methodological approach called formative interventions, inspired by Vygotsky’s method of double stimulation (1978). Vygotsky prompted the problem solving process by presenting a problem for the subject (first stimulus) that was not solvable with the intellectual tools available to the subject. He brought in the situation also an artifact (second stimulus), which could be used as a tool in solving the problem. In formative interventions, the subjects face a problematic and contradictory object which they analyze and expand by constructing a novel concept, the contents of which are not known ahead of time to the researchers. A key outcome of formative interventions is an agency among the participants.

In my study (Lambert 2010) I have analysed the multi-layered process of the formative interventions, conducted in HAAGA-HELIA University of Applied Sciences, School of Vocational Teacher Education. I have examined the ethnographic data collected in the study: videotaped discussions of project workshops in which writing was planned, texts in different formats produced by the project parties, and the discussions the texts raised in various web-based discussion boards.
The first stimulus was offered by the interventionists in writing workshops, where teachers were helped to identify the problems of writing, analyze their root causes, and search for new solutions. The model of activity system (Engeström 2005) was used in the analysis which led to reinterpretation of the object and motive of writing activity in universities of applied sciences.

The idea for the second stimulus came from the teacher who participated in the writing workshop. Her idea led to the formulation of the visualization tool, named “Writing Plan” (Lambert 2008), which enabled the long-term and negotiative planning of writing within the projects. The teachers, students, and practitioners were challenged to use the second stimulus as an instrument in the planning of writing in various R&D projects. The Writing Plan for the project is a matrix-type plan that project parties make together in order to link the writing into the project activity. The new tool made the writing visible for all the project parties, helped the project parties to commit themselves to the joint planning of writing, and most of all, helped the project parties expand their idea of the object of writing.

The formative interventions and the agency of the participants gradually led to a richer and more articulated concept of “project writing” (Lambert 2010), referring a co-configurative design and producing of multimodal texts all along the R&D projects. The aim of project writing is to support the continuity of development and to foster the dissemination and sustainability of the results gained in the project. Project writing” is interventionist writing (Lambert 2008), which does not only describe the change obtained, but also aims at producing the change.

The model of “project writing” can be seen as an intermediate, conceptual tool (Engeström 2005) for developing new writing genres inside the projects, and “on the terms” of the texts. It has encouraged already now the writers themselves to identify and define genres they use in their work, the methodological note suggested by Spinuzzi, Hart-Davidson & Zachry (2006).

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25. Diagnostics of Motivational Conflicts through Thinking Activity

Anastasia Karpukhina – Olga Arestova

Our research was made to investigate the phenomenon of identification, which is one of the examples of rational distortion phenomenon. It has manifested in the Proverbs Interpretation Technique.

Application of proverbs in psychological research has a long history. In psychology of thinking proverbs are traditionally used to examine thinking, in particular to find out what levels of conceptualization are apprehensible for the subject. Using proverbs in speech allows to convey the meaning without naming the situation, and the same proverb may become both blame and excuse. Other important function of a proverb is regulating: its authority as a “folk wisdom” helps subject to handle with difficulties, to direct his thoughts and activity.

It was investigated that the interpretation, which subjects gives to the proverb, may sometimes reflect the current motivational conflict. Elements of particular interest are cases for rational distortion, such as egocentric interpretation, aggression, evaluative speech and some others. In spite of understanding the proverb correctly, the subject may give the bizarre interpretation, which has no relation with the wide-spread and commonly accepted one.

Applying Proverbs Interpretation Technique for investigating motivational conflicts differs from a traditional way of using it: here we discuss dynamics of meaning and conceptualization processes. Other important advantage of the technique is a variety of proverbs and their content which provides the opportunity to choose proverbs for every subject, according to the hypothesis of the motivation conflicts and contradictions which are currently important for him. Proverbs are relatively seldom used in everyday speech, but, according to the paroemiological studies, it doesn’t prevent the subject from understanding the meaning even when they meet an unknown proverb inbuilt into the context, when he can find relevant situations in his own experience.

Phenomenon of identification appears when the subject switches from solving a given task to the attempt of solving his own conflict, and creates a personage – participant or experiencer of this conflict. Conditions of the task and the way of solving reflect the dynamics of inner contradiction and conflict process. In interpretation of proverb or a drawing subject often uses a hero of this proverb or drawing and enriches him with his own senses and feelings. We can see how objective logic is substituted by a subjective process of meaning production. It is reflected in the decrease of the conceptualization level, distortion in understanding the problem conditions, change of emotional expression and other features. Proverbs Interpretation Technique is a perfect material for clarifying this phenomenon due to the dichotomical structure of the proverbs and culture-determined way of
using proverbs, which stimulates subject to refer the situation described in the proverb with the events of his own life.

Our research included two parts. The first, preparatory part was held with two purposes: examination the thinking of test subjects to select the ones who are able to complete tasks with the high level of conceptualization. For that purpose we used Sentence Completion Test, Complicated Analogies Test, Odd Fourth Test and Pictograms Test.

Applying of Sentence Completion Test helps to elicit areas of personal problems, which may stay unconscious or not completely conscious, and make conclusions about personal traits such as egocentricity, adaptiveness, mental and social maturity and some others.

Complicated Analogies Test is used for checking ability of understanding logical connection, observing distinctions between different types of logical relations and transferring it from one group of elements to another. This test helps to make a selection of subjects who are able to solve tasks, which require highly developed conceptuality (abstract thinking).

The Odd Fourth Test is designed for checking abilities of generalization and abstraction.

We should also mention that the result of this test is sometimes influenced by the personal meanings of the stimuli. It happens when subject somehow relates the content of the test material with his personal experience. Such phenomenon of rational distortion is a manifestation of current motivational conflict.

The second purpose was to determine the current motivational conflicts of a person. That was made according to the data of SCT, Pictograms Test, drawings and Luscher Color Test.

Pictograms Test reflects emotional traits and current state of the person, his meaningful themes and cognitive properties.

Luscher Color Test provides a quick opportunity to get information without disclosing anything to the subject. It is an effective instrument for supporting hypothesis about the current state of a subject and his personal traits.

The Family Drawing Test is focused on the family relationships.

During The Non-Existent Animal Drawing Test the subject has to think of an imaginary animal, draw it and tell a fairy tale about his life. The subject is expected to identify himself with the animal, and metaphorical character of the image helps to display the features which remain blurred in more straightforward tests.

The second part of the research was conducted with the selected subjects, whose ability to cope with difficult tasks such as interpretation of the proverbs was checked during the preparatory part. Proverbs given for interpretation were especially selected due to the current motivational conflicts of every subject, in order to provoke identification. Another part of the proverbs was common for
all subjects which allowed to make conclusions about the difference in provocative strength of different proverbs.

Cases of identification were classified according to the intensity and content of interpretation discourse. It was discovered that on different stages of conflict different kinds of identification appeared.

The results show that identification appears the task is related to the current motivational conflict, and the analysis of the content of interpretations allows to make prognosis about the way of conflict resolution preferable to the subject.
28. ‘Waiting Room’ - The impact of educational and medical discourses on identity: painting as a visual essay

Edward Sellman

This paper presentation offers an image of an oil painting, ‘Waiting Room’ (viewable at: http://www.facebook.com/photo.php? pid=1846215&l=aa130239c1&id=637891740), as a visual essay on the relationship between educational and medical discourses and identity. The painting, informed by concepts from Sociocultural and Activity Theory, depicts four seated figures against a background that includes a glass box or room, a range of collaged text, some intentionally indecipherable and some clearly derived from the International Classification of Diseases, and ten floating circles that resemble medicine tablets.

The paper presentation will be structured into the following sections.
1) Contextualisation: the use of visual methods in research will be briefly discussed, exploring the potential merits such approaches may have over ‘traditional’ approaches for exploring human relationships, perception and meaning. This will be followed by further discussion about art practice as a form of research, focusing on the processes of research undertaken by artists to develop their work, particularly the ‘dialectical’ conversations artists frequently have between their own practice and art from the past.
2) Theoretical framework: the formal elements of the painting ‘Waiting Room’ will be analysed showing how the painting has been informed by theories of cultural mediation (e.g. Sociocultural and Activity Theory) as well as Foucauldian perspectives. Sociocultural/Activity Theory posits a mediated relationship between the psychological world of the individual and collective human practices, including those common within institutions such as schools and hospitals. This is explored in the painting via the juxtaposition of text, figures and a range of symbols.
3) The visual essay and accompanying commentary: the painting and the work of other artists will then be presented to explore how culturally produced language and symbols influence people’s perceived notions of normality, power and agency, their experiences of hierarchically organised institutions and diagnostic criteria commonly used to make judgments about their behaviour. The phenomenon of identifying children and young people with behaviour that is difficult to manage as possessing the condition Attention Deficit – Hyperactivity Disorder (ADHD) will be used as a point of illustration, drawing upon and synthesising a review of relevant literature.
4) Autoethnographic reflection will conclude the presentation, sharing the presenter’s insights on attempts to combine educational research with practice as an artist to date. Ideas for developing methodologies in this area will be shared.
The paper aims to investigate the development and functioning of pupils’ thought processes in their specific social and cultural setting, characterised by rapid changes in the practices of their schooling and society. Located in the context of rapid socio-political and educational transformation of the post-apartheid South Africa, the study investigated the hypothesis that participation in formal schooling results in associated shifts in the forms of thinking, especially in the development of formal, abstract, thought processes. However, the specific context of the South African political history of social and educational deprivation, and the specific cultural traditions of communities, provide a unique sociocultural settings in which the specific form and nature of cognitive development and functioning present crucial research problematic.

Premised on Vygotsky-Luria hypothesis (Luria, 1979), the study was informed on the one hand by the assumption that participants with the experience of schooling solve problems using the psychological tendencies that are shaped by the practices of formal school learning. That is, when faced with problems that require the classification of objects, schooled participants would use the formal mode of classification that characterise school-specific forms of knowledge and learning. They would, for example, use the abstract and categorical mode of classification to solve classification problems presented to them in the experimental tasks. The abstract and categorical classification mode emphasizes linguistic concepts, rather than pure experience, to establish object relations in task situations.

On the other hand, participants who do not have the experience of formal school learning, and a meaningful participation in industrial economic activity, would tend to solve the task problems using the classification mode that is dominated by the graphic appearance and concrete relations among objects. They would tend to emphasise the knowledge that they derive from their concrete situations through observation and verbal modes, involving how things appear and how they function, than their essential qualities, encapsulated by abstract, categorical, concepts.

Participants: Eighty pupils, the same subjects that participated in the Circles Tasks, took part in the Classification and Generalisation tasks. The Classification and Generalisation tasks were presented immediately after the Circles tasks. The participants were randomly selected from the class registers of Grade One, Grade Three, Grade Five, and Grade Seven classes. The age of the participants ranged from six years in Grade One, eight years in Grade Three, ten years in Grade Five and twelve years in Grade Seven. Twenty participants are selected from each Grade.
Materials: The materials comprised four stiff A4 size white cardboard sheets, each having a set of four black-ink drawings, representing objects ranging from animals, tools and plants. The following objects were represented in each of the task situation:

- Task A: pick, panga, hoe and wheat
- Task B: kraal, giraffe, goat and cow.
- Task C: tree, donkey, lizard and cow
- Task D: hut, wheat, tree and mealie plant

An additional A4 size cardboard sheet, with drawings of knobkerrie, bow and arrow, spear, and antelope, was also used for the pre-testing demonstration and teaching purposes (see Appendix 2.1. for a picture representation of all these tasks materials).

Procedure: The test involved the experimenter asking a participant to classify objects using one of the two alternative classification modes. The experimenter started by asking a question that required classification, namely; “Which of these does not belong with the others?” or “Which three of these four objects belong together?” After that the participant had classified the objects by pointing or naming one object that did not belong with the others (or pointing or naming the three objects that belonged together), the experimenter asked a second question requiring the subject to provide the reason for his chosen mode of classification. This was the crucial question because it determined the quality of the participant’s thinking regarding the actual classification mode of the participant’s overall response or solution to the tasks problem. The question seeking the participant’s reasoning behind her classification was, “Why do you think the object (naming it) does not belong with the others?” or “Why do you think the three objects (naming them) belong together?”

Analysis: The analysis focused on whether the participant’s response revealed a graphic-functional or abstract-categorical classification mode. A graphic-functional classification mode involved the classification of objects according to their appearance and functional significance. The abstract-categorical classification mode involved the classification of objects according to their abstract linguistic categories, established on the basis of the use of linguistic terms or conceptual relations.

Discussion of results: The performance of the subjects in the three other grades, Grade Three, Grade Five and Grade Seven (8 years to 12 years old), with regard to the use of the abstract-categorical classification mode, was not significantly different. The Grade Three subjects obtained an overall performance of 45%, Grade Five 49% and Grade Seven 56%. The results showed that these subjects used both the graphic-functional and the abstract-categorical modes, with equal emphasis. None of the two distinctive mode stands out as particularly dominant.

The pattern that dominated the responses of the Grade Three to Seven learners revealed an interesting phenomenon. Two distinctive modes of object classification were used to classify three
out of the four objects presented. These modes were either categorical or concrete. However, subsequent justification of the initial classification actions revealed that there were three modes of reasoning underlying the subjects’ classification performance. That is, participants who classified the object in a concrete and graphic manner justified their classification by offering concrete and graphic-functional reasons. However, unlike in the participants in the Vygotsky-Luria study (Luria, 1979; 1976; Cole et al. 2006) a participant who classified the objects in a categorical manner did not necessarily proceed to offer abstract categorical reasons to support their classification. While this was, in the main, the dominant form of thinking, there was middle, somewhat transitional mode of thinking that the results suggest which the discussion will focus on elaborating, specifically with regard to its implications for the organization of curriculum and classroom teaching and learning.
Unlike objective reality, its mental representation, or image, can not be studied through direct observation. Not knowing the nature of the image of reality, or mechanisms of its mediation, makes it difficult to define the nature of the respected symbolic activity. In the light of this fact it’s clearer to see why the same notion of mediation and its associated categories of sign and symbol in works of different authors in the same domain sometimes.

Experiment 1
Participants
The experiment took place in Moscow public school. A total of 26 third-graders (aged 8 to 9 years) and 31 fourth-graders (aged 10 to 11 years) participated.

Procedure
Children were tested individually. At first the experimenter introduced the testing device and pressed its button, lighting up the green LED indicator. Then a child was asked to guess which of the two LED indicators would light up next if the button was pressed again. A child had to make an assumption aloud before the button was pressed. The experimenter manipulated the permanent magnet in a way that left all the participants with no suspicion of its presence and the effect.

The experimental session consisted of no more than five rounds of 18 subsequent trials. In each round the experimenter repeated the same lighting sequence of green (G) and red (R) LED indicators.

At the end of the first round children were asked to evaluate their performance. Then another round started, repeating the same sequence. The session ended when a child could predict exactly which indicator would light up in every trial of a single round.

Result measures
Objectively, the only way to solve this task was to discover and memorize the indicator sequence. Therefore our focus was placed upon the way the children arrived at their solution, if any, and their reasoning behind it rather than the result itself.

Results
The following analysis identified different forms of reflection behind children’s behavior and the adopted strategy.

1. Preoccupation by the goal is common for in-task strategy, where a child tries to guess the result and doesn’t attempt to explore the situation of uncertainty.

2. Objective symbolization strategy explores the situation of uncertainty through construction of a
situation’s symbolic image that is coherent and endowed with presumable properties not inherent to the actual situation. Emotional approach is another feature of objective symbolization strategy, which reflects the participant’s view of the actual situation.

3. Both modeling and objective symbolization strategies assume the presence of a situation’s representational image, but the former comprises model representation as well.

4. The final category of approaches consist of answers that bear symbolic nature, but nevertheless prevent further exploration of the situation of uncertainty (subjective symbolization strategy).

Experiment 2
Stimulus materials
The stimulus items consisted of three sets of five cards with pictures of various recognizable objects, and one sample card with three identical pictures of the same object. A participant was required to match the sample card with one card in each of the three rows. This provided the capacity to exercise various strategies of mediation.

Procedure
Children were shown a sample card (in this example, with a picture of a lit candle) followed by three five-card sets introduced one after another and asked to select a picture that goes with the sample card and comment on their choice.

Results
The majority of children (35 participants) demonstrated behavior we defined as a complex strategy. In order to substantiate their choice they had to look for a less obvious criterion common to both sample and the chosen cards that would unite them in one situation.

The next most frequent behavior (observed in 28 children) was defined as a common criterion strategy. The difference between a common criterion strategy and a complex one is that the former doesn’t transform the situation itself.

Ten children adopted objective symbolization strategy that presumed construction of actual situation’s symbolic image on the basis of some abstract notion bringing together both sample and chosen cards:

Four participants used subjective symbolization strategy which proved to be a symbolization of a child’s own perception of the actual situation rather than interrelations of the objects:

Discussion
The subsequent correlation analysis showed that the correlation is positive between the components of a verbal creative thinking test and objective symbolization strategy (fluency $r = 0.352$, p<0.05; flexibility $r = 0.379$, p<0.05; originality $r = 0.341$, p<0.05) and negative between the same components of a verbal creative thinking test and the complex strategy (fluency $r = 0.172$;
flexibility \( r = -0.254 \); originality \( r = -0.263 \). Furthermore, the common criterion strategy proved to be, on one hand, in negative correlation with both the complex \( (r=-0.605, p<0.01) \) and subjective symbolization strategies \( (r=-0.177) \), and on the other in mild positive correlation with objective symbolization strategy \( (r=0.155) \).

The scores of Raven’s CPM test are noted to correlate positively with both the common criterion strategy \( (r = 0.390, p<0.01) \) and the objective symbolization strategy \( (r = 0.298) \), while demonstrating the negative relationship with subjective symbolization \( (r = -0.488, p<0.01) \) and complex strategies \( (r = -0.317, p<0.05) \). Since Raven’s CPM test scores measure the general factor of cognitive abilities, they can provide common grounds for the comparison of the mediation forms in view. It must be noted that even though common criterion and objective symbolization strategies are similar in their correspondence nature with complex strategy, subjective symbolization strategy and Raven’s CPM scores, no appreciable reciprocal relationship between them was detected. This fact affirms a qualitatively different nature of common criterion strategy and objective symbolization strategy.

**Conclusions**

Symbolic mediation is actuated in a situation of uncertainty, when exploration of its properties is hindered and a child orientates by analyzing perceptual traits of the situation’s image, subsequently building its substitute. Objective symbolization reproduces essential properties of an actual situation, and subjective symbolization embodies subjective emotional experience.

Common criterion strategy and objective symbolization strategy are negatively correlated with subjective symbolization and complex strategies. From this causal relationship between nature of a representational image in mediation strategy and successful solution of cognitive tasks can be inferred.
Sociocultural theories are prominent in the literature of many domains of learning and development as the tenets of the sociocultural approach are increasingly accepted. An area in which they have been suggested as valuable is that of conceptual change. Conceptual change as an approach for understanding learning and development has a rich history stretching over three decades since its classic formulation by Posner and colleagues in 1982. Until recently, conceptual change has been primarily regarded as individual in nature. Initially the focus was on the cognitive domain, with cognitive conflict suggested as the stimulus to change, however later work highlighted the significance of the learner’s motivation (Sinatra & Mason, 2008), perceptions of conceptual meaning (Sinatra & Mason, 2008), intentions (Sinatra & Pintrich, 2003), and beliefs (Vosniadou, 2007). Subsequent work has identified the importance of context (Linder, 1993), but in most cases the focus has remained on the individual. Sociocultural theories of conceptual change, where the individual is considered as interdependent with context, have considerable potential to explain both the processes and outcomes of change which are less easily identified through individual approaches. A number of authors have approached conceptual change from a sociocultural perspective (Vosniadou, 2003; Leach & Scott, 2003) but the relevance and validity of these approaches have been criticised. Vosniadou et al (2008) have suggested that sociocultural theories downplay the significance of both individual and knowledge, while Roth (2008) argues that both cognitive and sociocultural approaches are reductionist. We have developed a sociocultural discourse model which addresses these criticisms, and further identifies methodologies which are both authentic for undertaking empirical research into conceptual change learning and consistent with sociocultural principles.

This sociocultural discourse model encompasses two major propositions. Firstly, conceptual change is perceived as a process of learning and beginning to participate more centrally in the discursive practices of a particular community, which can be regarded as a form of cognitive socialisation. Secondly, this process is facilitated by provision of opportunities to engage with both peers and more central community members in authentic activities. Concepts are regarded as discursive in nature (Säljö, 1999), and as essentially social constructs which are used as communicative tools. Conceptual understanding is situated within the social and cultural practices of particular communities, and the ability to communicate meaningfully with other members of the community constitutes evidence of that understanding (Gee, 1990). Concept learning is similarly embedded in sociocultural practices, and individual development emerges through collaborative participation in
authentic discourse/cultural practices. This participation promotes the development of intersubjectivity (Rogoff, 1998) since the learner experiences both relevant social resources for internalisation, and evaluation of the aptness of personal externalisations. Conceptual change is semiotically mediated through the reciprocal processes of transformative internalisation and externalisation (Valsiner, 1998), and results in the development of contextual discrimination between different situated meanings. Structured teaching and modeling of appropriate discourse forms a critical part of the learning process (Karpov, 2003), but must be complemented by the provision of opportunities for the learners to engage meaningfully in relevant practices and discourse. The characteristics of the learning environment are critical in shaping zones of proximal development which evolve within classroom interactions, and the learning which occurs as a consequence. The outcomes of conceptual change include identification with a new community, or an increased centrality of participation in its practices, particularly its specialised discourse, validated through recognition and acceptance by more central community members (Gee, 1990).

Both processes and outcomes of conceptual change, assessed as development of discursive proficiency, are considered from individual and interpersonal perspectives, using a multiple planes of analysis approach (Rogoff, 1998) to demonstrate their mutual co-constitution and interdependence.

This model has been used as the basis for empirical research into conceptual change learning of Australian university students, and has been shown to be a powerful analytical and interpretive framework for simultaneous investigation of the processes and outcomes of conceptual change. Further, the model suggests ways of promoting conceptual change in classrooms particularly through design and management of learning environments, and the clear elucidation of the significance of contextual discrimination of meaning.

References


Traditionally, the work within the governmental security sector has been divided between the Ministry of the Interior (internal civilian security issues) and the Ministry of Defence (national military security issues), depending on the issue in question. In line with this kind of traditional thinking, the Strategy for Securing the Functions Vital to Society (=SSFVS 2006) emphasises that each ministry, within its mandate, shall steer and monitor the implementation of tasks and the development of required capabilities related to securing the society’s vital functions. On the other hand, elsewhere in the SSFVS, the responsibility for the coordination of total defence activities has been given to the Ministry of Defence. Based on this old-fashioned division of governmental work, both security ministries have their “own” “sub-security strategies”, although the Finnish security and defence policy, based on the newest Government Programme, sets the strategic guidelines for the activities of the Finnish security sector in a comprehensive manner. Comprehensiveness means that threats, for example all kinds of crises, will be countered in a comprehensive manner involving both military and civilian authorities and personnel (i.e. capabilities and competencies; see Finland’s Comprehensive Crisis Management Strategy, 2009).

According to Finland’s Comprehensive Crisis Management Strategy (2009), the objective of crisis management is to strengthen human security (see the Human Development Report (1994) of the UN) and comprehensive crisis management through shared training and research. High quality (national/international) human security education has to have some shared concepts and dimensions. The main remediating and reorienting dimensions of human security will be introduced in the paper (see Mäkinen 2010; cf. Hasu 2000: 2005).

One of the main premises of the paper is that the dimensions emphasized by the human security approach suggest that we should enable our students, both military and civilian ones, to continue their questioning, and constructively critical criticism, of “the ends and the means” of the military, defence and security sectors. In other words, the intent of the research project is to enable expansive learning to happen amongst the selected security sector organizations when the activities in question will be remediated in a qualitatively new way with shared concepts.

Historically speaking, in the course of the profound and complex contemporary developments, the paradigm of human security might be the ‘third step’ coming after the first step to the ‘postmodern warfare’ and the second step to ‘fighting against terrorism’ (Toiskallio 2007, 9). In the 1970s, the so
called ‘human rights regime’ began to emerge as a result of the development of the human rights law, the Conventions and the Helsinki Agreement of 1975, and the proliferation of human rights activists concerned about human rights abuses (Kaldor 2007). Complementarily, due to the mismatch between the security threats and the national and international responses to these threats, the human security approach has got its pivotal position within the global security sector. Interestingly, a same kind of ‘mismatch feeling’ has been shared also by soldiers (e.g. Smith 2005; Royl 2010). These ‘mismatch feelings’, or double binds and paradoxes (Mäkinen 2006), can be linked by the analysis (Engeström 1999) to the potentially identifiable multilevel contradictions of the interacting activity systems, and this point will be elaborated in the paper.

Actual-empirical analysis of the emerging governmental crisis management and security sector shows how the FNDU was founded in 1993 (see Mäkinen 2006) followed by the FINCENT (founded in 2001) and in 2006 by the CMC Finland. In 2007, the CMC Finland organized a pilot course of applying human security in peace-building, followed by annual courses. In 2008 the CMC Finland and the FINCENT jointly founded the Finnish Centre of Expertise in Comprehensive Crisis Management. In 2009, the CMC Finland published a manual for human security training. In winter 2010, the military pedagogists of the Department of Leadership and Military Pedagogy at the Finnish National Defence University held a new kind of course for the military pedagogists of the master students of military sciences (i.e. MMSc students), and the present paper reflects also on the progressive inquiries done before, during and after the innovative and future-oriented course.

It has been claimed that along the expansive learning process, some kind of a model (Engeström 1999), or/and a remediating concept, can offer a solution to the problematic (and paradoxical and contradictive) situation. Within the networked comprehensive crisis managers and actors, some such models can be identified already at strategic and “grass-root” levels. Analysis of the several security “sub-strategies” in Finland clearly shows how the human security is receiving more and more shared attention within the field in question. What the students should learn if the shared emphasis is on human security, and how they should do it, and why, will be answered in the paper also empirically.
This paper reports on a design based research project conducted between 2006 and 2009 in pre-vocational secondary education (VMBO) in which students follow a general curriculum with a vocational perspective. The practical assignment the students in this project worked on was to design and build a tandem tricycle. That assignment was meant to be knowledge-rich and meaningful. That is, aim was to improve students' mathematical and scientific understanding by working on a practical complex design task. At the beginning of this design-based research lies the following general research question: do students, who participate as model designers in a process of guided co-construction with an expert (teacher) and peers, show better learning outcomes than students who learn to work with ready-made models provided by the teacher?

**Method**

The project is a design based research project with three iterations (The design based research collective, 2003). Based on findings from a case study (Study 1) and a first intervention (Study 2), we re-designed an educational programme for students in vocational education aimed at modelling for a second intervention (Study 3) (van Schaik et al., 2010; Van Schaik, Van Oers, & Terwel, in press). All together six schools, about 150 students and 27 teachers participated in the project.

As a design research project, we wanted to study the interventions in authentic contexts. An appropriate way to characterise our interventions would be to place it in the tradition of formative intervention (Engeström, 2007, 2009).

In Study 1 we used a qualitative approach and conducted a pattern analyses on video data. In the subsequent interventions both pre- and post-tests as video observations were used in an experiment (trial) with a control group.

**Case study**

In Study 1, a case study (Van Schaik, Van Oers, & Terwel, 2010) we explored the implementation of two different assignments at one school and tested whether or not they were 'knowledge-rich' (Guile & Young, 2003) and how teachers were able to guide the students. The results were that designing a tandem tricycle proved to create opportunities for teaching students codified knowledge and modelling. The teachers, however, tended to simply provide the models and for the students the solutions to a problem, mathematical and scientific concepts and models tended to be bound to the (practical) situation they emerged from.

**First intervention**
In Study 2, an intervention at two schools following the Study 1 (Van Schaik et al, in press), a programme based on the tricycle assignment was designed and teachers were trained to guide the students either in a co-constructive or providing way. In the experiment the two conditions, providing (control) versus guided co-construction (experimental) differed in the way models were used in the classroom. In the control condition models were drawn by the teacher and functioned only as a representation for the product to be built. In the guided-co-construction conditions, models were thinking tools for students to help to orientate and communicate with each other and the teacher on their plans and ideas. The results of this intervention showed that there was no difference between the conditions with respect to scores on the post-tests on codified knowledge from the disciplines. However, the students in the experimental condition produced better models of their products.

Second intervention
In the second intervention at four schools, students in the experimental condition did scored equally well as their counterparts in the control condition. Although the best performing school was in the control condition, no differences were found between conditions on the post-test. Next to the pre-test, school was the variable correlated with the scores on the post-test. However, a comparison between the schools did not result in a significant difference between the schools. Schools 2 and 4 had the highest adjusted scores on the post-test.

Conclusions and discussion
The general research question of this design-based research (DBR) was the following: do students, who participate as model designers in a process of guided co-construction with an expert (teacher) and peers, show better learning outcomes than students who learn to work with ready-made models provided by the teacher? First, it can be concluded that modelling and understanding of mathematics and science is supported when students design and construct a tandem tricycle. However, students in a process of guided co-construction do not outperform their peers in a 'providing' setting. Secondly, in some educational contexts models were used as tools for orientation and communication, whereas in others the models seemed to disappear after the design phase. Micro-analyses are needed to identify the parameters by which the models can be the tool to connect both practical problem solving and codified knowledge construction.

References
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In Portugal mathematics is a compulsory subject until the 9th grade (14/15 years old) and one of the most selective subjects in students’ vocational choices. Promoting a meaningful mathematical learning (Bakhtin, 1929/1981) is one of the ways to achieve what Cobb and Hodge (2007) call an equity education. It is also an essential step in order to achieve social justice (Apple, 1995) and to promote a participant and critical citizenship (César & Kumpulainen, 2009).

Many students develop negative social representations about mathematics even before they begin learning it in a formal way (Machado, 2008). As Moscovici (2000) and Marková (2005) stressed, social representations are dynamic and dialogical. They are shaped by students learning experiences, media and significant others. Social representations shape students’ performances and school achievement. But students learning experiences also shape their social representations about mathematics (Abreu & Gorgorió, 2007).

Collaborative work, particularly peer interactions, can be used as a mediation tool to change students’ social representations (Machado, 2008). Teachers’ practices also need to be changed to befit students’ characteristics, needs and interests. Well-adapted practices allow students to work in their zone of proximal development (ZPD) developing higher mental functions (Vygotsky, 1934/1962), like their mathematical thinking and their mathematical communication competencies.

The social and dialogical interactions (Renshaw, 2004), the implementation of a consistent didactic contract, well chosen tasks and working instructions, facilitate the emergence of what Perret-Clermont (2004) calls thinking spaces, i.e., spaces in which students are able to reflect upon their own performances and learning experiences, achieving a meta-analysis of their own mathematical work but also of their peers’ work.

This study is part of the Interaction and Knowledge (IK) project. This project lasted 12 years (1994/95-2005/06) and followed around 600 mathematics classes taught by 69 teachers. The main aims of IK project were studying and promoting collaborative work in formal educational scenarios.

In this study we assumed an interpretative approach (Hamido & César, 2009) and developed an action-research (Mason, 2002) at a school near Lisbon. We focus in a class chosen as a paradigmatic example, i.e., similar to many other classes from a poor background and including several students from socially undervalued minority cultures. The participants considered in this presentation are 8th graders (N=21), the teacher/researcher and two other observers. Students
worked collaboratively during the whole school year. Data were collected through questionnaires, tasks inspired in projective techniques, an instrument to evaluate students’ abilities and competencies, participant observation, documents and students' protocols. Data were treated and analysed through a narrative content analysis (Clandinin & Connelly, 1998) from which inductive categories emerged (Hamido & César, 2009).

We chose to analyse in-depth one student’s trajectory (Ana, pseudonym). She was chosen as a paradigmatic example illustrating other students’ paths. Exploring the three tasks inspired in projective techniques and connecting them with some parts of Ana’s mathematical performances illuminates the changes that emerged from the implementation of collaborative work and also from the nature of the tasks that were solved in classes. The empirical evidences illuminate that Ana was able to establish connections between her home culture and academic culture, i.e., doing what Abreu, Bishop and Presmeg (2002) and Zittoun (2006) call as transition of knowledge between two context and/or scenarios, while participating in different cultures. These mathematical practices were a mediator of this student’s knowledge appropriation and of her development/mobilization of abilities and competencies. They also illuminate the evolution of her social representations about mathematics as they changed from negative ones into positive, innovative and creative social representations about mathematics. This had a clear impact in her mathematics performances.

References


The Portuguese educational system just recently started shifting towards inclusion. These developments promoted diversity within Portuguese mainstream schools (César & Santos, 2006). Although students have become more diverse there are still around 95 thousand facing exclusion by failing school or becoming early school dropouts (INE, 2009).

IE is a mediation tool to develop more inclusive settings (César & Santos, 2006; Daniels, 2001; Vygotsky, 1934/1962). Thus it is conceived to enhance school participation in quality school settings in which all voices are seen as valuable (Bakhtin, 1929/1981; César, 2009).

Portuguese teacher education has also been changing its curricula towards the inclusion of curricular units addressing IE (Santos, 2008; Santos & Hamido, 2009). Although these changes aimed at promoting a quality education for all, we still observe non-inclusive practices in some Portuguese mainstream schools (César & Santos, 2006; Rodrigues, 2003). Developing more inclusive practices has become a necessity for the construction of educational settings that welcome difference as a valuable resource for all (Ainscow, 1999; César & Santos, 2006).

Several authors stress relations between the construction of (more) inclusive educational settings and the sentiments, attitudes and concerns of the educational agents towards IE, and how those may be fostered through teacher education (Forlin et al., 2007; Loreman et al., 2007). When teachers’ educational process is consistent with the educational agents’ zone of proximal development (ZDP) (Vygotsky, 1932/1978) it is more likely to endorse visible impacts on teachers’ sentiments, attitudes and concerns. Thus it is important to study changes occurring after pre- and in-service teacher education on the sentiments, attitudes and concerns of the educational agents (Loreman et al., 2007).

This study is part of a broader research project Educação Inclusiva e Processos de Formação. Its main goal was to study the sentiments, attitudes and concerns presented by educational agents in Portugal. In this particular research we focused on the data collected in the Lisbon area (Santos, 2008).

We assume an interpretive approach carried out through a long panel survey (Cohen & Morrison, 2001; Hamido & César, 2009). It includes all educational agents (N=81) attending teacher education courses with curricular units related to IE, on a Volunteer based participation, since some institutions did not accept to participate. To collect data we used: (1) documents; and (2) the SACIE
– Sentiments, Attitudes & Concerns about Inclusive Education scale, by Loreman, Earle, Sharma, and Forlin, (2006). This scale was answered in two moments: at the beginning and at the end of the selected curricular units. We selected curricular units in which we would apply the SACIE, by identifying, through document analyses, the intention to explore contents related with IE. Data treatment used descriptive statistics and the SPSS.

When confronting data of these two moments, we detect a slightly increasing number of subjects that indicate more inclusive attitudes towards students characterized as presenting SEN (Special Education Needs). This seems to apply for those students who usually fail in their exams or who are seen as presenting attention difficulties. Data also shows a high level of concern towards inclusive education, although between the first and second moment, we observe a decrease on the number of educational agents that specify concerns towards IE.

One possible interpretation for this small impact is that the selected curricular units implemented practices and tasks that were not consistent with the ZPD of the educational agents that were attending them (Vygotsky, 1932/1978). Another possible explanation, however, is that the curricular units only lasted three/four months and change processes need more flexible timeframes to develop and become noticeable.

**References**


47. Societal Need: A fundamental concept in cultural-historical science

Seth Chaiklin

Cultural-historical science is the general science for the study of practices (Chaiklin, 2010). The motivation for the science comes from a need to conceptualise and theorise about practice as an object of investigation. This need reflects a fundamental assumption in the dialectical tradition that human capabilities develop as a consequence of participation in historically-formed, structured action. Accordingly, researchers must be able to give an articulated and differentiated analysis of practice. The appearance and maintenance of a practice (as organised actions) must have a reason (or it will be impossible to study them scientifically). A basic hypothesis in cultural-historical science is that all practices arise and are organised in relation to specific societal needs. That is, organised action does not appear simply from the human imagination, but arise from human attempts to transcend the absence or lack of something that is important for the reproduction of their living conditions. The assumption, given the materialist commitment of cultural-historical science, is that needs are satisfied by objects. Accordingly, a specific practice is the way in which societally-needed objects are produced. Specific practices are delimited because they aim to produce objects that satisfy specific societal needs (e.g., shoemaking produces shoes, police try to produce security or safety, researchers try to produce knowledge). Given these assumptions, a critical task, if one is going to analyse a specific practice, is the ability to formulate the substantive content of specific societal needs that the practice is addressing. In effect, practice and need are mutually constitutive of each other. Without an analysis of need, then it will be impossible to understand the essence of the practice; at least according to this theoretical perspective. The ability to analyse societal need depends, in part, on having an adequate general understanding of societal need as a theoretical concept. Once again, a materialist commitment implies that analysis and identification of need must be shown through historical analysis of societal practice. This implication raises important and difficult methodological challenges for the further development of this science. This paper introduces briefly the idea of cultural-historical science, explaining how it is defined as the study of practice, and explaining the idea of practice as historically-organised action to produce objects that satisfy societal need. Using that conception, it becomes possible to highlight the essential role of societal need in the analysis of ‘practice’, and the need for historical analysis. The approach used in this paper is inspired by Hegelian dialectical logic and the concept of ideal as developed by Ilyenkov (1977). Societal needs are understood as an ideal, formed in production in relation to a societal ecology. The concept idealised societal need provides a way to give a general analytic perspective for the identification of societal need, which can be used to show how to link specific
productive actions with societal conditions. This analytic approach gives, in effect, a way to describe need from a materialist, rather than an idealist or normative, perspective. Application of this perspective is illustrated in an analysis of societal need in relation to pedagogical intervention for young children. Organised interventions in relation children under the age of six years old started in the late 18th century in Europe. In the early 21st century, this practice has become widespread. Over this period, many variations and forms of intervention have been formed. The challenge is to be able to identify and characterise the particular needs involved. Practices, such as preschool intervention, are often organised around multiple needs. The ability to analyse the needs with a particular concrete practice depends on having a general analytic approach to identify and characterise those needs. This paper presents an analytic strategy for describing those needs. The importance of being able to analyse needs must be understood in relation to the idea of practice development, which is a special science within cultural-historical science. Interventions that aim to develop preschool teaching practice should be grounded in an understanding of that practice, where characterisation of the societal needs are a critical and essential part of the understanding, and a critical orienting point when evaluating the purpose and aim of the intervention.

References
Notions of ‘standardization’ and ‘homogenization’, which make learning in the classroom an alienating experience for the culturally diverse students, have met a challenge in the growing multicultural perspectives in education which recognize linguistic and cognitive diversity and the need to create space for learners’ self expression by nurturing their cultural identities in school. My paper analyses the effect that a ‘collision’ of these two perspectives, viz. mainstream transmissive pedagogy and a multiculturally inclusive pedagogy had on an ESL teacher and her culturally diverse learners.

The context of this study was the mentor-mentee relationship I had established with this ESL teacher in the course of a larger project with ESL teachers that I was carrying out in India. On one of my field visits to her college, she invited me to teach in her class to explore alternative ways of engaging her ‘problematic’ students that we were discussing. The class turned out to be a critical incident for both the teacher and her students. At the same time, it provided me with an opportunity to capture the developing teacher and learner perceptions as their new experience disturbed the equilibrium of their taken-for-granted ways of knowing and being. The central questions posited for examination are:

1. What is the lens through which the teacher perceived her students? What effect did it have on their identity and learning?
2. What impact did the alternate practice have on the teacher and her students?

My analysis is informed by sociocultural theory stemming from the work of Vygotsky. Vygotsky’s theory is built on the premise that psychological processes cannot be understood without reference to the social, cultural and historical settings in which individual thinks and acts (Vygotsky, 1978). He stresses the importance of the nature of social interaction in formal instruction. Linking learning to the social organization of instruction helps shift the focus of educational reform from the putative deficiency of the learner or even the abilities of the teacher in isolation to the way both teachers and learners are constrained by the cultural practices in the developing social milieu and the need to create new possibilities with alternative practices for teachers and learners (Moll, 1990). The present study seems to demonstrate this point.

The data for my inductive analysis is drawn from transcripts of administrator, teacher and student interviews, class observation, teacher questionnaire and field notes.

The teacher seemed to see her culturally diverse students in her own standard middle class image and found them deficient for not speaking and learning like her. Referring to the dialect they spoke,
she remarked, ‘They speak such bad Kannada (Regional Language), because it was different from the institutionally recognized and socially preferred standard Kannada of her socialization. Students’ attempts to internalize school concepts in dialectic with their ‘spontaneous concepts’ were smothered by the teacher’s insensitivity to multiculturalism. As a result the teacher seemed to ‘lose’ them. Her unsympathetic attitude of her students and the resistance from them had led to a major discord that soured her relationship with them. It is this impasse that the alternate class seemed to break.

Before my class, to my question, ‘How should a teacher teach in order to help you learn English?, the students had said, ‘…must be simple, give meaning of every word in MT and give notes.’ There was a Gestalt change in the perspective of students after experiencing the educational relevance of their cultural resources. The classroom exuded a feeling of working together as a team in an inquiry process. It helped them shed their inhibitions:

Student5: I gave the wrong meaning for ‘astronomy’, but I didn’t feel ‘shame’. I felt I was learning. ‘Astronomy’, ‘Astrology’- see, I remember these words even after the class is over.

Student6: We ‘catch’ words because we use them ourselves….

The classroom had suddenly transformed into a safe, non judgmental place where students felt encouraged to take risks and think about what they were learning.

This class opened up new possibilities for the teacher too. The class and the subsequent interactions we had seemed to provide a springboard for change and the development of a new attitude towards the cultural resources students brought to class. The following academic year, she spoke of her renewed practice and the difference it made to her relationship with the students and to the teaching-learning process.

A sociocultural perspective makes us aware that meaning is embedded historically and culturally in a variety of languages or as Bakhtin calls, ‘heteroglossia’, ‘each characterized by its own objects, meanings and values’ (Bakhtin, 1981: 292). The teacher’s earlier perception of students’ dialect as ‘bad’ reflects the common cultural attitude of viewing the language and culture of culturally diverse groups as inferior. This deficient view led to a replacive teaching with no space for dialogic engagement of students’ language, cultural experiences. A failure to link culture and learning seemed to inhibit learner participation that was detrimental to their development. However, the teacher can hardly be seen as being solely responsible for this. In constructing life in the classroom, she is constrained by the culturally and institutionally constituted practice and attitude available to her. Although this teacher espoused concern for her students and interest in changing the situation for herself and her students, she seemed to tilt back towards status quo for lack of dialogic support.
to think outside the box. Her genuine intentions are reflected in the readiness with which she seized
the opportunity for change and attempted to reconstruct the classroom situation.

Principles for teaching:

- Not viewing learners’ diverse culture as deficient.
- See the relevance of learners’ culture to the educational process.
- Develop strategies for building on the cultural resources learners bring.
- Create a safe environment for learner participation and self expression.

Principles for Teacher Education:

- Provide alternate discourses and experiences to enable teachers to become critically aware of
  themselves and their students as culturally and historically embedded
- Enable them to explore ways to create space for learner participation from their diverse cultural
  locations.
51. Human Resource Development as Learning Activity: From individual training to organizational development

Silke Geithner

It can be assumed that the nature of work in today’s organizations is undergoing fundamental changes (Sydow et. al. 2004; Engeström 2008). Traditional industrial systems, which are based on mass production, well-defined work roles and output goals, no longer provide an efficient mode of operation in modern technological industries (Ardichvili 2003:5). In the age of ‘mass customization’ (Victor & Boynton 1998:233) the process flow is modularized and characterized through linkages integrated into customer/product-unique value chains (see also Pihlaja 2005:61). To understand the dynamic interactions between the product, the customer and the firm is one of the most important challenges (ibid: 60). The work context requires human beings who are enterprising, have significant problem-solving capabilities, can operate in an environment with highly variable customer demands, capable of continuously learning new technologies and willing to work on contingent project teams and task forces (Ardichvili 2003:5; Popkewitz 1998). In addition, employees should be able to reflect on their work capabilities and their work environment with the focus to change and develop their working processes further which can lead to organizational development.

However, most of the current learning concepts in industrial SMEs are a heritage of the industrial system that refers to mass production (Vince 2005:27). That means theses concepts are still attached to the traditional belief of production systems and processes. As Vince (2005) pointed out the practice of HRD is rooted in standardized products, defined by professional bodies and focused on predictably and consistently, driven by rational planning and individual development. Therefore, the described changes in the nature of work invite human resource educators to look for new ways of organizing learning experiences. The search for new approaches to learning and development, necessitates the quest for new theoretical models that could inform human resource development practices (Ardichvili 2003:5).

I argue that current learning models practiced in industrial SMEs rarely mirror the ‘real-life’ work activity of production systems since I see significant contradictions between HRD practices and current work practices in industrial SME. From my point of view these contradictions are based on an inadequate assumption of work, learning and development. Historically, learning practices (esp. HRD) have been disconnected from the work processes (Barley & Kunda 2001; Engeström 2005). It is rather the management’s assumption about work requirements but the real work process that
drives HRD-management – or as Engeström emphasizes: “In an organization, managing is usually best seen as an activity system of its own, relatively independent of the activity systems of primary productive work.” (Engeström 2009:308). Therefore proposed HRD concepts are likely to neglect the workers’ realities, demands and practices. The consideration of the aspects of context, complexity and the social dimension of working and learning are proved especially insufficient (Yanow 2004:201).

My conceptualization of HRD suggests a paradigmatic orientation of learning and development based on a practice based paradigm. The cultural-historical activity theoretic approach of work, learning and development (Engeström 1987, 2001, 2005; Chaiklin et al. 1999) can be seen as a promising concept. Such an approach is applied in various practice theoretic research contexts as a conceptual framework and an intervention tool to design work and learning processes in organization (e.g. Engeström 1987, 2001, 2005, 2008). However, activity theory is hardly used in Germany, especially in the research about small and medium-sized enterprises.

CHAT emphasizes the socially and historically derived nature of practice. Activity theory focuses on the interrelation between working and learning as well as between individual and collective development. The term ‘practice’ refers to day-to-day activities in their ‘entire richness.’ Work practice could be described with the concept of the activity system which includes the subject, the object, the used instruments, tools and artefacts, the specific form of division of labour and the community with their implicit or explicit rules of cooperation (Engeström 1987:78). Contradictions between these elements trigger expansive development (see cycle of expansive development, Engeström 1987, 2001). However, practice does not emerge as ‘given’ in human activity but requires the engagement of practitioners who create their historical realities and collectives in pursuing activity (Engeström, 2000a; 2000b; Miettinen, 2000). According to this ‘practice’ could not be mapped in instructional learn-settings. Rather it is necessary that the employees reflect on their everyday practice. Hence the learning process provides a dialectic relation between reification and appropriation (Il’enkov 1982), between the development of knowing through practicing and the generation of knowledge through reflecting (Schulz 2008; Schulz/Geithner 2010a, b). While acting, practitioners are put in a position to re-create their practise. This means that employees reflect and discuss the contradictions in a participative process which can lead to new forms of work activity and employees are able to develop their problem solving competencies simultaneously. Therefore learning concepts and methods need to include learning loops of reflected practice through corporate acting beyond hierarchical and structural borders, discussions, mirroring, and collective creating of work contexts (see also Schulz/Geithner 2010b). The major challenge of a work based learning concept I see in providing framework conditions that enable and foster the aspects
mentioned afore. This will further lead to a different view of HRD away from imparting contents towards developing people and organizations.

In using the empirical methods of several days’ observation and interviews (altogether 126) I have analyzed the ‘real-life’ work activity of production systems in three case studies – in medium sized firms in different industries (textile, electronic, automotive supplier) in Germany. Based on this I would like to point out the changes in the work activity, the deduced demands on learning and development and the HRD model applied in the firms. Contradictions could be identified in the work activities on an operational level and between the work activities and the applied learning system of the firms. Hence work requirements, context specific factors, learning demands, discrepancies between HRD-requirements and practise and the process of bringing about a work related learning and development system will be discussed. Based on these results I will develop company specific learning and development models.
The challenge of literacy improvement

Countries seeking to educate citizens contributing actively in an increasingly literate society, must provide children with opportunities for acquiring the early literacy skills that lay the foundation of formal reading and writing. Children growing in poverty are at greater risk of school failure. National and international comparative studies show that students from lower socioeconomic backgrounds are less successful in acquiring reading and writing skills than same age peers from other family backgrounds. Even though, considerable evidence documents that children who grow up in a literate environment do not wait until the beginning of formal instruction to explore the features of reading and writing. They are sensitive to the presence and use of this notational system in their communities and start producing their own writing from very early on in their lives, actively interacting with adults and peers. A broader and more complex vision of the resources children from low-income families bring to school is critical for teaching interactions that build on what children already know and can do and scaffold new learning.

The study

The focus of the present study was the emergence of literacy skills in children from disadvantaged communities, at the beginning and the end of kindergarten, before formal literacy learning. Knowledge of the alphabet has been established as the strongest predictor of learning to read and write in the first years of schooling. Emergent writing has also been identified as a relevant precursor of literacy learning and has been described as a sequence of stages. Children from deprived communities, have been considered as poorly prepared for learning to read and write, because they exhibit low levels of emergent literacy.

Participants: 352 Spanish-speaking boys and girls, ages 4 to 5, assessed individually at the beginning and the end of the school year, in 10 public elementary schools from the city of Talcahuano, a poor area, located in the South of Chile, 600 kms. from Santiago, the capital city.

Tasks: a) write their first and family names and words or sentences from a previous shared reading with the examiner. b) identify low-case letters of the alphabet, presented randomly in individual cards.

Results

The children’s written production and alphabet knowledge were diverse at the beginning and at the end of the school year. At the beginning of the year, many children didn’t know any letters, some knew the vowels and also x and z, two very unfrequent consonants in Spanish, but related to
popular TV series for children. Many children identified the first letter in their names. A few boys and girls knew almost all of the alphabet, at this time. At the end of the school year, most children had improved their alphabet knowledge. Many children could identify all the letters, but some others could identify only few more.

At the beginning of the year, some children said they didn’t know how to write, others made drawings and some scribbled. Many children were able to write their first name and some wrote some words, using a diversity of strategies and approaches. At the end of the year, all children evidenced some learning, but results were even more diverse.

Active and social nature of children learning

Results from this study evidenced every child had an organized set of knowledge on how to read and write. A great diversity was observed in the level of knowledge and skills among the children. Some letters were better known than others and first names were written before other words, a result that can be understood in the context of their active participation in their respective communities. Children’s written production did not correspond to the stages that have been described. The greater ability to write their own names and, in some cases, the names of their parents, siblings and friends, can be attributed to the fact that these words occupy an important place since very early on in their interaction with their parents. Their written form and the letters used in them are a source of learning for children, who use them as a way to improve their knowledge of the alphabet. Other words were written at lower levels. Teaching practices should be rich enough to give every child a chance to expand the understanding and competence children bring to formal schooling. In the same way, letters related to other significant experiences like TV characters, are learned before simpler sounds and more frequent letters in the Spanish language, like “m” or “l.”
Due to globalization, there is a significant increase in the number of students whose first language is not the language of instruction in schools. In the context of a multilingual Canadian school where English was the language of instruction, this study investigates how different contexts of learning can afford or hinder English language learners’ (ELLs) opportunities to learn in mathematics classrooms.

Theoretical Perspectives

For this study, I draw on Vygotsky’s (1978) theory of the Zone of Proximal Development in the sense that learners can open up to a wider range of potential development if the appropriate social assistance is organized. This study investigates how appropriate social context of learning is organized in a real classroom setting where students participate in different communities of practice simultaneously even within a single classroom and access different kinds of social networks and artifacts. In order to theoretically examine this issue, I draw on recent discussions examining co-existing multiple activity systems in a particular practice, such as a classroom or a work place (Gutiérrez, Baquedano-Lopez, & Tejeda, 1999; Worthen, 2008). In the classroom, there can be multiple activity systems characterized by different motives (Leont'ev, 1978). For example, for some students, the motive of group work can be to build a social network while for others, the motive can be to get school work done. This study focuses on different contexts of student group work and how ELL students’ differently access identity, mathematical practices, and languages.

Data collection methods and data sources

Data was collected from October 2009 to June 2010 in an urban elementary school in a large school board of Ontario, Canada. While the official languages of Canada are French and English, this school mainly used English for instructions, except for in French classes. In terms of demographics, the school had a student population of approximately 450 students with representation of more than 30 different language groups; 23% of the students were born outside Canada, and for approximately 53% of the students, English was not the language spoken in their homes.

At the school, I conducted participatory observations in two Grade 4 mathematics classrooms and also during recess. Between October 2009 and June 2010, I visited a classroom at least once a week and collected four types of data: 1) ethnographic fieldnotes, 2) video data of classroom interactions, 3) students’ work, and 4) interviews with teachers. For focal participants, I identified 4 newly-arrived ELLs who were in “English as a Second Language” classes, while participating in
mainstream mathematics classes.

**Data Analysis**

I started data analyses simultaneously with data collection, by keeping analytic memos of each observation day and interviews, and video content logs. For this study, my main analysis was devoted to comparing focal ELLs’ participation patterns in group work with different contexts. In order to examine how one’s participation in social practices is situational and supported by the affordances of the situation and available resources, I utilized the analytic method of discourse analysis from the perspective of sociocultural theory of learning (Gee & Green, 1998; Gutierrez, Rymes, & Larson, 1995; Moschkovich, 2007). For the analysis of identities during group work, I examined the power dynamics in the group and positional identities (e.g., Esmonde, 2009).

**Major Findings**

A major finding of this study is that focal ELLs obtained access to different mathematical activities, languages, and identities, depending on the structure of group work. I chose to focus on group work because different motives such as completing school work and building social networks tended to become evident during group work. I analyzed group work under two different contexts: a) students voluntarily chose their groups (voluntary group), and b) students were assigned their groups (assigned group). For the voluntary group, students tended to choose their friends as their group members. If students could not form a group, the teacher intervened and assigned a group for students. Thus, students’ social network outside the mathematics class manifested through students’ choice of group members.

Video analyses showed that in voluntary groups, focal ELLs tended to access a broader range of classroom mathematics practices. In the assigned groups, focal ELLs tended to focus on copying down others’ answers. On the other hand, in the voluntary groups, ELLs tended to actively participate in mathematics practices, such as justifying their answers and offering alternative solutions to problems. In the assigned groups, there was often a power imbalance among students. As a result, ELLs tended to be positioned as someone who did not have expertise to offer. However, in the voluntary groups, ELL students accessed a broader range of identities.

Another important finding showed the use of students’ stronger languages other than English during group work. One of the focal participants was able to access French and Spanish because he was assigned group members who were able to use French and Spanish. In the assigned group, despite his accessibility to his more competent languages, group members assigned this focal ELL student to a sub-activity, which was not directly related to the main mathematical activity.

**Discussions**

This study shows how ELL students’ performance can differ depending on different structures of
group work. From the activity theory perspective, these different structures of group work allowed for different motives to be manifested in the interaction. In the assigned group, students’ motive of completing school work efficiently became obvious and in that context ELL students were not actively involved in the group work. In contrast, in the voluntary group, students’ motive of building social network became more evident and ELL students’ involvement both in mathematics discussion and in off-topic conversation tended to be higher. Based on these findings, I discuss how different contexts of learning differently afford motives in classroom learning and hence afford different opportunities to learn for ELLs.
61. Analyzing work - integrating activity and process perspectives

Klaus-Peter Schulz

Assuming the changing nature of work and consequently an actual demand for in-depth research of work, this study aims to reframe the study of contemporary work research. In the last two decades in organization studies high attention has been drawn to the change of organizations and its strategies due to variable aspects such as globalization, however without sufficiently taking into account that work processes have also changed significantly in the same period of time. This drift away from work could be found in several disciplines dealing with organization and process research. Process and technology have become the focus of attention, neglecting the interrelation between people and technology.

Since work practice goes beyond and across organizational and structural boarders (Kerosuo 2006) common analytical patterns like organization structures, hierarchies, tasks, rules and corporate identities do hardly mirror the complex reality of cooperation and coordination. We therefore argue that contemporary work needs to be analyzed from different disciplinary perspectives which take into account people, structures, social systems and technology (e.g. Orlikowski/Scott 2008). However each perspective uses its own language and refers to its basic conceptual understandings. Therefore the analytical patterns differ significantly. We see the requirement in taking into account each perspective and bridging them to create an amalgamated picture of work (see also Jelinek et al. 2008). For example: social relationships and informal cooperation relations can only be analyzed through in depth participatory observation and through estimations of the people involved in the work system. Technology and formal structures are represented through explicit manuals and data.

Consequently this study intends to contribute to the following research questions:
(1) How can contemporary work processes be researched in a comprehensive way?
(2) Considering the analysis of work processes: What aspects of work processes need to be taken into account?
(3) What are adequate methods, units of analysis and settings to study contemporary work processes?
(4) What consequences does a new way to study contemporary work bring about to those under study? – Analysis as intervention.

The research is based on in depth empirical studies from small to medium sized global acting companies in production industries. The study follows the principle of action and field research (e.g. Lazarsfeld 1969). Therefore tools are developed together with the practitioners involved, and the methods will be realized and reflected in the empirical field. The study is part of a 3 year lasting
public funded research project on innovation transfer which started in 2008.

Status of current research in the field – theoretical background

Taking into account the actual situation of work in Europe and its rapidly changing requirements, it shows that new analytical tools have to be developed to get a clear image about the following aspects: The current situation at the work level; the interrelations between management decisions and work situation; the ways organizations and economies deal with actual demands, taking into account their work resources.

In recent years work and organization research have been dominated by issues such as organizational strategy, structure, environment and knowledge management. Detailed studies of work have been neglected (Barley/Kunda 2001). In the academic field this development led to abstract theoretic debates. In actual practice the lack of consideration of work shows in a permanent substitute of management concepts and strategies such as the transfer and re-transfer of firms or the altering application of different change tools (Adler 2001). Representative examples can be seen by the transfer of a highly competitive Nokia mobile production plant from Germany to Bulgaria, which hardly considered the loss of 2000 well educated workers, and the recent struggle of the Swedish/Swiss electro company ABB due to failed management policy. ABB in the mid of the 1990s was considered one of the companies with the most promising strategy to cope with changing future challenges. The “re-turn to practice” of a growing group in organization studies (Gherardi 2006; Miettinen et. al. 2009) can be seen as a reaction to that, either from practitioners or academics views. Whilst practitioner oriented research complains about the lack of awareness of requirements on the firm’s ground level, e.g. the lack of realization of actual customer needs (Yanow 2004), work researchers criticise that organization and management studies mainly deals with standard and abstract stereotypes of work which are far away from workplace realities (Barley/Kunda 2001, Starbuck 2006). Consequences are far reaching and have a negative impact: Work is considered as being arbitrary exchangeable and transferable. Assumptions for organizational development processes are based on abstract and standardized views of inner-factory reality. Higher education concentrates on strategic issues, workplace training on knowledge transfer. The changing nature of work is hardly taken into account.

Considering the practice oriented approaches they meet the requirement of organizational work research only partially. Many practice-based studies are either fixed to specific contexts and lack detailed theoretic analyses of work activity (e.g. Gherardi 2006) or they refer to an antiquated focus of work as a ‘craftsmen’ activity (Orr 1996; Barley/Kunda 2001). Challenges however lie in the comprehensive research of work in organizations. In other words work has to be grasped as a combination of management, problem solving and routine, office and shop floor activity, as well as
being embedded in firms, institutions, administrations, corporations or networks. Furthermore the specific intra-, inter-organizational and societal contexts have to be taken into account. This research aims to bring about new tools to study work in detail with reference to adequate theoretic models such as activity system (Engeström 2001; 2005) inquiry (Dewey 1938/1988) or site ontology (Schatzki 2002).

The conceptual framework of the proposed research requires a multidisciplinary approach: Demands of operational work can only be understood taking into account engineering and computer scientists’ views; organization studies are based on a management and an organizational behaviour context; work research refers to work psychology and activity research.
This paper focuses on how the ideal of inclusive education is realized in one particular classroom. As is the case for most Norwegian teachers, the practitioner in this study, “Ann”, has children with special needs in her class, a third grade class with twenty-two pupils. Among these are two boys “John” and “Paul”. John, who is new in the class, has Tourette syndrome. Paul has AD/HD. Both boys have a difficult domestic situation and both can be exceptionally unruly and unfocused. Furthermore, in Ann’s class there is one pupil, a boy, who has severe problems in reading and writing. Ann’s class is not unusual. When the typical Norwegian primary school teacher looks across the faces of her about twenty-five pupils, approximately two to four of the children looking back have some kind of “special needs”. Teaching these pupils in regular education classrooms is a fact of life for all teachers in this country. The political vision of a school for all is clearly stated in the Norwegian legislation and in the national curriculum. The research question for this study is How does a Norwegian primary school teacher deal with inclusive education in her ordinary classroom activities?

Classroom reality is complex, multidimensional and occasionally hard to understand. However, one way to make classroom reality manageable is to present narratives of classroom activities (Clandinin & Connelly, 1996; Elbaz-Luwish, 2002, 2005; Gudmundsdottir, 2001; Moen, 2006/2009; Zellermayer, 1997). According to Crites (1971) a narrative invites listeners or readers to get involved and to participate in the topic it focuses on. This paper of Ann and her practice has a narrative form of representation. The aim is not to offer any fixed solution or ever lasting answers when it comes to the challenge of realizing inclusive education. Within the framework of socio cultural theory this is impossible. The intention is rather to present a thinking tool for those who are concerned with inclusive education at the classroom level.

After the content forms were signed, I was together with Ann for several weeks. Data collection was carried out by means of observations, video-recording and interviews. Focus for the observations was Ann’s teaching. In particular, the focus was directed on how she dealt with John and Paul. The video-recordings captured ordinary classroom activities. Parallel to the observations and video-recordings there were interviews with Ann. The intention with these conversations was to search for her reflections on choices she made in connection with the teaching situation and to hear her explanations and thoughts on why something happened. The interviews were all tape recorded and transcribed.

The aim with the analysis was to identify patterns of Ann’s behaviour and thoughts (Fetterman,
The first step in this process was to find recurring traits of Ann’s actions and behaviour in the classroom. Parallel to this, was a search for her reflections and thoughts by analyzing the transcribed interviews. The result of this process was clustering of Ann’s practice into four themes. The first theme is about her emphasis on organizing and facilitating the ordinary classroom activities in a way that enable all the children, including John and Paul to participate in them. She also wants the children to master transitions between the various activities, which is the second theme. The third theme is her emphasis on seeing the individual child within the framework of the class, and the last theme identified in the analysis concerns Ann’s emphasis that the children should have a good time when at school.

The study concludes that the activities in Ann’s class could be described as inclusive activities. They are inclusive activities characterized in terms of membership, mastery, togetherness, involvement and learning. The first characteristic, membership, implies that all the children in Ann’s class are members of the class and natural parts of the class environment. Neither John nor Paul is at any time excluded or segregated from the class. However, just being members of the class is not enough. According to Ann the children should also master the membership, something that leads to the second characteristic: mastery. In Ann’s class the children master the various activity genres (Moen, 2006) needed in the class. However, being members of the class and mastering this membership is not sufficient. According to Ann the pupils also need a sense of togetherness. The togetherness characteristic is based on and a result of pleasant, common experiences. Ann believes it is important that all the children and in particular pupils like John and Paul should have pleasant, common experiences when at school. This characteristic naturally leads to the fourth: involvement. The involvement characteristic implies that the children are active participants. Ann encourages the children to be involved, to be active and committed interlocutors in the on-going activities, and she does so by commenting on their utterances, asking questions, and by facilitating for dialogues, interactions, experiences and exploration. The concept of involvement leads to the fifth and final characteristic of Ann’s practice: learning. Learning here points at both social and academic skills. Needless to say, an inclusive school is not only about children participating in class, being accepted and taken care of, their central school experience has to be academic learning as well.

To conclude, what becomes obvious is first, that the characteristics presented here should be looked upon in connection with one another and as interwoven. The study shows that it is the connectedness that gives them impact. Second, inclusive activities in terms of membership, mastery, togetherness, involvement and learning can only be understood as a continuous developmental process, something that is on the move (Ainscow, Booth and Dyson, 2006), or some kind of vision to be reached for (Emanuelsson 1995). Within the overall framework of socio
cultural theory I suggest that the characteristics presented above may function as a theoretical framework for those who are concerned with inclusive activities at the classroom level.
From 1985 to 2005 in our country the employment rate for the female population aged 15-64 increased by about 12%, arriving at 45.3% (OECD 2007), although it remains below the UE average and, more importantly, far from the Lisbon target which implies a 60% employment rate for women. Several studies have shown how these family structures have gone through fundamental re-organization of their life and working time, as well as of their household and caretaking tasks (Frissen, 2000; Saraceno, 2003; Istat, 2008). However, these changes have affected women more than men, and this is particularly true for Italian women. As a matter of fact, our country is characterized, differently from other European countries, by less sharing of "family workload" among household members and therefore by the highest rate of asymmetry. National surveys reveal indeed that the Italian women devote to domestic and family work much more than other European women, whereas Italian men are the ones who devote less time to these activities in Europe. It is shown that 90% of the family workload falls on women, whereas almost 30% of Italian men do not take part at all in any of these activities (Istat 2008).

The lack of sharing of family work is considered in Italy one of the most important determinants of the still low rate of female labour market participation (with serious implications for the economic growth and for the level of GDP) and of the low fertility rate (with severe impact on demographic and intergenerational issues, Boeri et al. 2005).

What makes the situation even more difficult in Italy is the lack of services aimed at improving the so-called work-family balance: public policies for the family (Italy devotes to family welfare only 1.3% of GDP, and kindergarten supply can meet the needs of just 6% of the population of children), extended parental leaves (still rarely used), part-time jobs, efficient scheduling of services (eg. opening and closing hours), flexibility in working hours and tele-working (Naldini 2002).

Within this framework, some stages of the family life cycle appear particularly critical (Istat 2008): families with young child(ren) in which both parents work, classified as ‘overburdened by work’. This particular type of family, which has to deal with the difficult balance between paid work, child care and daily management of household tasks, has been the object of the research that we discuss.

How working mothers ‘do’ family everyday?

Recently family started to be considered in a new way: not as a given entity with clear and stable borders but as the product, mobile and always under construction, of discourses and interactions of family members: it is through such practices that people build a certain way of being a family.
(Ochs, Taylor 1996; Pontecorvo, Fasulo, Sterponi 2001). Family is therefore conceived not just as something that ‘is’ but also as something that people ‘do’.

In particular, studies of the everyday life of dual income families (Pontecorvo 2006; Tannen, Goodwin 2004; Ochs, Kremer-Sadlik 2007) showed in detail the ways in which families use everyday ermeneutics (Aronsson 2004) in facing and solving problems.

In this framework, we studied how working mothers manage family everyday life and domestic work. Data rely on the videorecordings and transcriptions of 5 focus groups, each including 3 women with (1 to 3) children, working outside home. Results show the practices of coordination and the expert practical thinking used by working mothers to manage what have been defined ‘overbusy families’.

This cognitive activity, that the research done so far on domestic and family work has not revealed, seems to be, instead, particularly relevant in the family functioning, and particularly demanding as regards the degree of commitment and workload.
Hierarchical organizations have strong boundaries between different units and functions. The boundary between frontline nursing work and the evaluation or quality control function in a hospital is an example of boundaries upheld by the different logics that guide the activities. The evaluation function is guided by the logic of control, applied by management and administration. The frontline work of nurses is guided by the logic of everyday practice, dominated by the presence of patients. The former logic emphasizes standardization and cost efficiency; the latter emphasizes the meaningful execution of everyday work tasks, largely measured by the perceived wellbeing and satisfaction of the patients. As the case analysis of this paper will show, overcoming this kind of strong boundary and developing a common interest between the logics is not simple.

In this paper, I investigate an effort to overcome this type of organizational boundary in a university hospital in Finland. Can such a boundary be overcome, and if it can, how? I take a dialectical, activity-theoretical view which perceives boundaries as historically established, tension-laden and triggers for learning and change in organizations.

The empirical case of this study is from a university hospital in Finland. The world of the frontline work, the surgical operating unit, consists of 300 physicians and nurses. In the early years of this millennium, the surgical operating unit experienced constant increases in the numbers of patients to be treated and at the same time a lack of personnel due to sick leaves and turnover. This led to closings of operating rooms and growing pressures on the personnel. By 2005, the unit was in a near-crisis situation. In the summer of 2006, our research group was invited to conduct a Change Laboratory (CL) intervention (Engeström, 2007) with the personnel to find a way out of the unit’s difficult situation. The CL intervention was a collective organizational design effort which led to a new organization model.

In the hospital, the quality department operates as a separate function, producing assessment tools and data for the hospital management. The quality department is physically and mentally remote from the frontline work, i.e., the actual patient care. This paper analyzes a rare collaboration effort between nurses and evaluation professionals. The boundary in the hospital was particularly solid, and the collaboration effort was conflictual. After the CL intervention the upper management asked the quality department of the hospital to create an assessment tool to effectively measure the daily performance of the surgical unit. The created tool was a quantitatively oriented electronic form to
be completed by the nurses. It was soon realized that the tool did not serve the needs of the surgical unit. An employee-initiated attempt to overcome the boundary between the worlds of evaluation and frontline work then began.

The data collection was carried out on two temporal levels. The data concerning the first phase was collected from the initial CL sessions and its ethnographic follow-up study during the years 2006-2009. The data concerning the second phase is from the ethnographic follow-up study, conducted during 2007-2009, of the collaboration effort between the two worlds of evaluation and frontline work. In this study the follow-up was conducted using methods of observational ethnography (see Strauss et al., 1985) and interviews, complemented with e-mail conversations and document data. I followed care pathways of patients undergoing different operations and conducted spontaneous ‘on the spot’ interviews with the employees and the patients, in the regular wards, the operation theatres, the recovery room, the surgical unit’s control room, the hallways, and the hospital cafeteria.

The collaboration effort in the hospital was analyzed with the aid of the ideal-typical model of expansive learning actions (Engeström, 1987). The model has been used for research purposes and as a methodological tool in a wide variety of activity-theoretical studies and workplace interventions. Expansive learning leads to the formation of a new, expanded object and pattern of activity oriented to the object (Engeström & Sannino, 2010). The concepts of obstacle (Iakovidis, 1998; Shiffman et al., 2005) and conflict (Sannino, 2008) are used as auxiliary concepts for examining the implementation of the new tool.

Overcoming the boundary was difficult and required what may be called boundary breaking. In the collaboration effort a new, electronic assessment tool was designed collaboratively and later implemented in practice. I will analyze the boundary breaking as a series of expansive learning actions that take the shape of a micro-cycle of expansive learning (Engeström, 1999; Engeström & Sannino, 2010). I define boundary breaking as a locally initiated effort taking shape between historically separated parties, i.e., activity systems. Boundary breaking is driven by obstacles and conflicts which, if dealt with, may function as important triggers for organizational learning and change. This kind of conflictual boundary breaking is a rare event and an opportunity for expansive learning. This has not been fully recognized in previous studies on organizational boundaries and boundary crossing (e.g., Bechky, 2003; Brown & Duguid, 2001; Brown & Eisenhardt, 1995; Carlile, 2004; Krishnan & Ulrich, 2001; Wenger, 1998).

The results of the study indicate that implementation of a new model of an activity, designed in a participatory formative intervention, can catalyze boundary breaking efforts in an organization. The meeting functioned as a platform for the creation of a boundary object, i.e., a shared assessment tool
aimed at improving the monitoring of the activity and at generating useful information for both the employees and management on the locally created development efforts. Along with the expansive learning and boundary breaking, obstacles and a conflict emerged. Therefore smooth boundary crossing and sustainable collaboration between the worlds of evaluation and frontline work were not achieved.
The leading term in our study is a phrase WITH REGARD TO: teachers with regard to alienation. The analysis of empirical material we had collected showed us that teachers usually perceive their students in the context of coping with or failure to cope with educational requirements, meeting or failure to meet educational expectations. We are particularly interested in groups of students struggling with failures at school, who are alien to the system of institutional education. We define this specific aspect of addressing “failures at school” as “alienation”. We pose research questions: (1) what approach teachers adopt when confronted with educational alienation, (2) how they respond to it, (3) how they compare themselves to/ identify themselves with their students, and (4) how experiencing/ working through the problem of failures influences their professional identity and perception of other aspects of their work.

We look at the teachers collectively, as a group of people who work together at certain school and thus share similar experience and create shared patterns of orientation, which are specific for a given school. We view the approach towards alienation not as incidental or declared stance, but as an established pattern of orientation.

The category of orientation pattern is theoretically and empirically rooted in a documentary method of social survey. This method defines cognitive and emotional perspective which is rooted in practice and confirmed by practice. The said perspective, in turn, becomes a significant criterion of naming new experience. The orientation patterns consist of mainly two resources of pragmatic knowledge. The orientations scheme identified in survey as standardized and institutionalized rules of conduct respond to the first group. The orientation schemes are transmitted by direct guidelines, rules or generalized habits. In our case, these are rules and (formal) tasks assigned to schools. The orientation schemes, however, are never completed in a pure form since orientation framework - internalized, atheoretical, habitual patterns, which are acquired in the course of primary (widely understood) socialization and combined with environmental conditions - are superimposed on them.

In our context, orientation framework of teachers combine with environmental mentality, being a member of a particular local community, and stem from a profile of social and cultural capital of a given group of teachers.

 Teachers who work together at one school create small social life-world experienced. Such world has three constitutive features: it is experienced (as orientation framework), it is social (collectively shared) and it is “small” (it is given an institutionalized orientation scheme).

The situation with students is more complex. There are students who, for various reasons,
“integrate” to a significant extent with school’s logic. There are also students whose environmental experience is alien to school habitus and it prevents them from identifying with school’s requirements. Their primary socialization reinforces different skills and approaches (such come from families of poor cultural capital).

We discuss particular types of teachers’ orientation patterns with regard to educational alienation based on four cases: methodical, mediating, buddies and tormented. Model orientation patterns diversify due to two key dynamics of combining experience of exclusion and school requirements. The first dimension describes different cognitive approaches towards educational “alienation” depending on the fact whether teachers as a group treat the scheme of institutional and school-oriented requirements of the educational system as the only and decisive criterion of assessing students behavior (alienation cannot be justified) or whether the reasons for failures at school are perceived as an important problem for a student. This problem hinders realization of school’s task and determines and blocks overall development of students (alienation needs understanding).

• Orientation to cognitive rejection of educational alienation: methodical and tormented teachers notice the students who fail at school, but they do not treat the conditions behind their failures as equally significant indicators of common teachers’ thoughts.

• Orientation to approving cognition of educational alienation: mediating teachers and buddies introduce (or at least they want to) students’ perspective to their own collective orientation patterns. It becomes equally significant point of reference as requirements of education.

The second dimension describes various behavioral approaches of a group of teachers. On one hand, we distinguish groups which accept obligations to work with students struggling with school exclusion (alienation cannot be left unattended). On the other hand, we can find the groups who fail to see any possibility of constructive action and change of situation (alienation falls beyond the circle of school’s influence):

• Orientation to active response to educational alienation: methodical and mediating teachers feel obliged to take some joint action to achieve important educational goals. In the first case, the point of reference is successful realization of school’s education by majority of students who are conformist towards school’s requirements. In the other case, the attempt of mediation between values significant to educators vs. possibilities and barriers brought to school by students.

• Orientation to no sense of agency: tormented teachers and buddies fulfill their duties possibly at a different level and to a different extent, however poor efficiency or pointlessness of such actions is predominant in their view. In their view, the agency is beyond the influence of teachers and school. In the first case, school environment is considered more and more hostile. In the other case, it is perceived as permanently rooted and unchangeable.
The significant part of formation of particular orientation patterns is interaction of teachers’ orientation schemes (school-oriented expectations) and orientation frameworks designated by socialization history of the teachers and their environmental identification. Similarity of or difference between social and cultural experience of students and teachers is also an important indicator of habitual style of teachers’ work and in certain cases, it is even more constructive mechanism of organization of their work.

References:
A number of media studies in cultural sociology discuss the issue from the assumption that the media is regarded as the main means of mass communication such as television, radio and newspapers. However, historically, the idea of ‘media’ has not been restricted to a vehicle or a medium of transmission and communication. Benjamin, W. (1995), taking language as an example, points out that the media is a topos (‘place’) where it brings about its meaning itself, rather than a means of conveying some exterior meanings to the other party. With reference to the idea of Benjamin, W., this study formulates media as an opened place (topos) where various practices come across under the configuration of people, things, and systems, and make up some meaning and value together.

The subject this study takes up is the “Matsusaka Cotton” as the media. The short history of the “Matsusaka Cotton” is as follows. Around the 6th C., weaving techniques had been introduced in Matsusaka neighboring districts of ancient Japan. When the cotton growing was prevailed in Japan and the cotton weaving took hold in the 15th C., women farmers around Matsusaka district began to weave cotton cloth at the loom. Those cotton cloths were widely sold by the merchants from Matsusaka who launched into Edo, the shogunate capital. There is a record that they shipped fifty million rolls of cotton cloth a year.

The remarkable feature of the Matsusaka cotton fabrics was that they had plentiful striped pattern variations based on indigo dyed strings. The origin of the striped pattern was that a young merchant who sailed to Vietnam sent cotton fabrics with a minute stripe pattern back home to Matusaka in the beginning of the 17th C. The merchants and the women farmers’ weavers from Matsusaka district adopted the striped pattern in cotton goods for the people in Edo, a big consumer city. Thus, the Matsusaka striped cotton fabrics became popular with the people in Edo as their everyday clothes.

As the spinning machinery industries developed and western cloths became popular in the late 19th C., the Matsusaka cotton fabrics lost marketability and fell into oblivion. In 1980s, the work of restoring and handing down the hand-woven Matsusaka cotton cloths began on the site where Echigoya (present-day Mitsukoshi, a big department store in Japan), which was a store run by the Mitsui Family (a former financial conglomerate), used to be.

Various grassroots organizations have been involved in the work of restoring the Matsusaka cotton fabrics. In this way, “Matsusaka Cotton” as the media has actually organized various practices around itself. The central figure of the work among those organizations is a women party called “Yuzu-ku-ai”. The party is consisted of thirty women from 20s to 80s who have completed
the learning program on the traditional skills for the hand-woven Matsusaka cotton cloth. These days the members of the party have been working for the event of 30th anniversary, co-producing exhibition.

I have carried out some participatory fieldwork in the studio of the party, attending a whole members’ monthly meeting and observing the members’ work of weaving. I investigate how the members collaboratively organize the party in order to keep up the work of restoring and handing down the hand-woven Matsusaka cotton cloth, and what can be a factor or an event that the party has to change its systems or arrangements.

I have recorded some discourses among members when they are practically weaving, or discussing about the way that their party should be. I examine those discourses for what makes the members’ practice maintained and reorganized. It becomes clear so far that the members’ practice naturally has the nature of weavers, while simultaneously it has the nature of ‘narrators’ who dig up and narrate the space histories that the Matsusaka Cotton as the media yields. It is considered that some kind of ‘literacy’ for keeping the work of restoring and handing down the hand-woven Matsusaka cotton cloths has been formed regarding the members’ practice including active discoursing among them.

“Matsusaka Cotton” is the media in which the information for restoring the socio-historical activity systems is recorded.

However, Matsusaka Cotton as the media does not record its original activity itself, but it is nothing but an objective that the restoring activity aims at. Matsusaka Cotton plays the role in showing historical landmark where there used to be the original activity and the goods. The practice of restoring is not just to follow the remains, but it contains many activities such as regenerating materials, reorganizing skills and production systems, and developing distribution networks. It is also discussed that there are many cases where unique techniques or new bricolages are created through the activities of restoring the lost techniques and materials.
69. Pre-school Children’s involvement in adult-initiated activities

Lone Svinth

Introduction and aim

91% of all children in Denmark age 3-5 years attended a pre-school in 2008 (Nielsen & Christoffersen, 2009). In 1998 pre-school children spent on average 7 hours a day in pre-school (Christoffersen, 1999). The vast majority of pre-schools in Denmark are public and have traditionally been characterised as child-centred with considerable emphasis on children’s ‘free play’. When the national curriculum guidance for Early Childhood Education was introduced in Denmark in 2004, it gave rise to an increased focus on learning, children’s participation and adult-initiated activities in pre-schools. Even though the importance of empowering children to participate in their pre-school is underlined in the national curricula in Denmark, empirical studies of children’s participation are scarce (Berthelsen & Brownlee, 2005). A research review conducted by the Swedish researchers Emilson & Folkesson (2006) showed that the concept of participation is mostly used in relation to marginalized groups in society, or about children in educational settings. In Denmark, several ethnographical studies have found that children have very different opportunities to be active and equal participants in preschools (Larsen, 2004). To be an active participant depends on whether opportunities for participation are provided for the child or not (Johansson, 2003). Thus one key issue regarding children’s participation is an engaged teacher who creates meaningful contexts (Emilson & Folkesson, 2006) and allowing the children to influence the activity.

Participatory learning

The basic premise of the research project is that usually children’s efforts and motives are directed towards successful participation in the institutional practices (Larsen, 2004). Participatory learning build on the assumption that learning is relational, as well as culturally and contextually embedded, and that children in pre-schools, in one way or another, take part in the learning processes in those settings (Berthelsen, 2009). When the locus of learning shifts from the mind to social relations, it moves into an area where knowing, being, becoming also is a matter of conflict and power.

Horizontal and hierarchical participation structures

The theoretical framework is inspired by Rogoff et al. (2003), and will apply a distinction between horizontal and hierarchical participation structures and the influence on children’s involvement in adult-initiated activities. A horizontal participation structure involves a collaborative participation with flexible, complementary roles (ibid., p. 184) A hierarchical participation structure involves someone managing the others’ participation, fixed roles and a strong emphasis on transmission of
information, as well as a so-called ‘Initiation-Replay-Evaluation’ format (ibid., p. 187). As Rogoff et al. emphasise, the two traditions of participation structures are not considered dichotomous, but as two of many ways to organize learning (Rogoff et al., 2003, p. 183). The underlying assumption is that the participation structure can change within a specific activity from hierarchical to horizontal or vice versa, influencing the involvement of the children in the process.

**Method**

Data emanate from fieldwork in two different pre-schools over the course of 15 months. Adult-initiated activities (e.g. ‘circle time’, various workshops, music sessions and lunch) in two Danish preschools were recorded on video at 20 occasions. The recorded activities involve from 6 to 14 children at the age of 3 to 5 together with 1 or 2 different teachers (trained and untrained pre-school teachers). The material consists of about 40 hours of video recordings, selected sequences have been transcribed and analysed. Video technology enables us to capture the dynamics of a child’s participation (Fleer, 2008). It can be very difficult to capture an ongoing practice without a video camera.

Even though the goals for early childhood education are defined in the mandatory curriculum that every pre-school makes, the understanding and actions of the preschool teacher in a specific activity as it unfolds here and now with a group of children has even greater influence on the experiences made available for the children in the activity (Andersen, 2005).

At the conference, I will present the finding from the study, guided by the following research questions: (1) what activities are initiated for children in selected pre-schools? (2) How is children’s involvement influenced by a horizontal or hierarchical participation structure in specific activities? (3) How is democracy and participation understood by pre-school teachers and children in pre-school?

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70. Syntonic seeds - an attempt to take the movement of inscriptions as unit of analysis

Pär-Ola Zander

Inscriptions, which I regard as the results of when IT users write, draw, sketch, model or paint or otherwise create persistent content, are an important object of study in interaction design. They can be conceptualized in many different ways – as representation, externalization, reification, notation, articulation, to name a few, and the resulting conceptual plethora creates problems for advancing scientific understanding. This paper contributes to the understanding of collaborative inscription and practice development and its relation to ICT and other artefacts. In particular, conscious inscription for attaining change is focused. The contribution is reached by theoretical research on current relevant theories of inscription, combined with action research as a second strand of research. The theoretical research investigates the concept of representation in classical cognitivism, various strains of dialectical approaches derived from the psychologist Vygotsky, and Baudrillard’s theory of value, and is what I focus on in the paper. I have also conducted action research in the setting of volunteering organizations, their appropriation of inscription technologies and their developmental activity. The empirical parts have been previously reported in my phd thesis, and the theoretic research presented in this paper is a continuation of my work.

The research resulted in the construction of a concept, syntonic seeds, for the interplay between inscription, collaboration and development. In some sense, it is similar in scope and potential application domains to the notion of Susan Leigh Star’s “boundary objects”, but are more grounded in Activity theory, and emphasize other aspects of collaboration. Syntonic seeds are systems of inscriptions, where the inscriptions can change between being tools and objects and figure in different activities. All syntonic seeds are targeted against contradictions. This concept is proposed as unit of analysis when researchers and theory-informed practitioners stand in front of a praxis where a plethora of inscriptions are orchestrated towards reaching change. Collaborative writing and conceptualization in different design teams are examples of such praxis. The level of analytical scale is the same as proposed by Engeström in ‘learning by expanding’, i.e. on the level of collective activity.

I am not arguing that activity or action as units of analysis should be abandoned as important constructs in the analysis of such situations. Syntonic seeds consist of components of activities, and no syntonic seed analysis can be conducted without investigation of activity. A unit of analysis helps the analyst to concentrate her or his limited analytical resources. The difference between having activity as unit of analysis as compared to syntonic seed is that when the activity diverges from the inscriptions, the analyst follows the activity and disregards, or tend to disregard, the further
use of the inscription. In the approach I propose, syntonic seeds are used as initial pathways, from which activities are studied, and that the trajectory of syntonic seeds are directing what activities to study. It also enables the possibility to delineate the actions and operations targeted to a given inscription, without losing the larger context of the inscription.

I only claim that this approach is feasible in a limited domain. In the paper I argue that information and communication technologies, which embody many inscriptions, have become socially dominant (1), interactively shared (2), controlled (3), dynamic (4), and operationalized towards learning and development (5). When inscriptions have a central position in a developmental setting, these material novel conditions may give the methodological suggestion that inscriptions are centred. All methodological imperatives have a cost. Therefore, the domain of ICT may benefit from syntonic seed analysis, since this concept embrace these aspects. With this proposed unit of analysis, some activities will become less delineated, but in return inscriptions and their role in development will be better understood.
71. Peculiarities of social situation of delinquent adolescents’ development

Igor Kuznetsov

The purpose of our work is to give a description and analysis of social situation of development of mid adolescents who possess antisocial behavior.

The age is determined by L. S. Vygotsky as “a specific for the given age, exceptional and the only relation between a child and the surrounding environment, especially social”. The central structure of psychological age is social situation of development. It is, according to L. S. Vygotsky, “the basic moment for all dynamic changes during the stage of development… and it determines those forms following which a child acquires new features of personality finding them in social reality which is the main source of his development; it is the way when social becomes individual”. A. N. Leontyev broadened the existent analysis of the age and wrote that “every stage of psychological development is characterized by definite and main for a child attitude towards the reality, main type of activity”.

Determination of the main relation suggests the system of relations, e.g. a certain hierarchy. We think that in the majority of cases the specificity of a child’s development within the frames of one age period may be defined not by the main relation/activity but by the peculiarities of the whole system of relations, for example, by that relation which takes the second place within the hierarchy.

To determine the social situation of adolescents’ development we conducted a survey. As the result we had 40 interviews with law abiding and delinquent adolescents (20 in each group). We determined the following parameters: basic relations of the adolescents, their hierarchy, requirements to the adolescent within the relationship, admitting or refusal of these requirements, adolescent’s possession of abilities to meet the requirements. Besides the basic relations (with parents, teachers, coaches, teenagers) we tried to see adolescents attitude towards themselves, e.g. possession or lack of requirement towards themselves and ways to meet those. In average adolescents put on the first place their relations with people of the same age which proves what has been described many times as a distinctive feature of this age “communication with people of the same age” (for example in age periodization of D. B. El'konyn). But the further analysis reveals many differences in the groups tested. Law abiding adolescents as a rule put on the first/second place of the hierarchy their relations with parents or “public adult” (in the majority of cases this adult is not a teacher but a person engaged in some extra curriculum activity as sport, art etc). Delinquents see on the first place someone of the same age or themselves even and there is normally no relation with the “public adult”.

So in spite of the fact that all adolescents firstly mention their relations with someone of the same
age, the systems of relations differ greatly. The system of relations as the base for social situation of development doesn’t only include the fact of having the relations, but also requirements and expectations towards the adolescent and cultural means for meeting these expectations which become the source of development. It means that they provide an “ideal form” to present the ways of their fulfillment.

According to our data the delinquents possess some peculiar form of socialization. In this “horizontal” (as we named it) type of socialization the “ideal form” is not adults, but people of the same age or even the adolescent himself. In the last case, the teenager thinks that he already comes up to anticipations and the relations which do not prove this fact are rejected by him. Such adolescents do not accept the requirements and expectations of the adults and try to assert themselves among the same agers. This narrows down the zone of proximal development and lessens their access to cultural sources.

For law abiding teenagers as well as for delinquents the relations with the same agers are important but their absence shows that they turn to adults. It means that they include expectations of “public adult” into the zone of their proximal development and this adult is a carrier of public sense and ways of activity. They help adolescents to adopt the social norms of the given society and lead their way to a better socialization. Such type of socialization can be called “horizontal and vertical”.

In the majority of cases “horizontal” and “vertical” types of socialization are realized at the same time (especially in case with law abiding adolescents). The problem arises when one of the types becomes less important or totally rejected. In case with delinquents we observe such situation when they lose good relations with adults, lack cultural means for requirements realization or when adults demand too much from the adolescents.

The results of our research prove ideas of D. B. El’konyn about the basic activity during the period of childhood. Besides they give a chance to clarify the peculiarities of social situation of development of delinquents, to reveal a specific “horizontal” type of socialization when we see the lack of orientation towards the adults in comparison with law abiding adolescents. The results show that the biggest “correctional source” for delinquents is “public adults” – supervisors of their extra curriculum activity.
Among various directions of psychology researches of time (perceptions of time, relation to
time), research of time organization of life and activity has special applied value. It is connected
with the fact that time management of activity increases efficiency of work.
In works on this problem the subject approach realized by followers of S. L. Rubinshtein prevails.
In our opinion, studying of laws time management of activity from cultural-historical methodology
point of view is an actual problem as for the decision of general psychological questions, so for
problems of professional psychology.
Such approach is realized by authors throughout last years.
From cultural-historical methodology point of view we consider it correct to speak not about the
management of activity time, but about the time management of activity. We mean the social
coordination of joint activity and regulation of individual activity by special time indication means.
There are general ones (for example, a clock, a calendar) and specific indicative-symbolical means
of time management for different types of activity. Various norms of time, time measures, plans of
activity, programmes, schedules, etc. Besides existing means the new ones are created.
Under what conditions time means of organization of activity are used productively by the subject
and under what conditions they are considered to be senseless bureaucratic activity? The answer to
this question presumes to develop recommendations about increase of activity efficiency, even in
the period of new means creation.
In cultural-historical methodology indicative-symbolical means are considered as psychological
tools by analogy with work tools. In professional psychology E. A. Klimov and his colleagues use
concept «functional means of labour», and in particular «indicative-symbolical functional means of
labour» for the description of such external indicative means. Correlation of L. S. Vygotsky
terminology with the terminology accepted in professional psychology is an actual problem.
We have studied conditions of use of functional means of activity organization on the example of
scientific activity of post-graduate students and students writing their degree thesis. In our research
the following hypothesis has been checked up. Conditions of using means of scientific time
management of activity are: a stage of development of scientific activity, a stage of work on a
research theme, specific features of self-control activity, personal features.
The following methods have been used: independently worked out questionnaire, a questionnaire
«Style of behaviour self-control» by V. I. Morosanova, questionnaire "Mini-mult" (the abridged
variant of MMPI adapted by F. B. Berezin and M.P.Miroshnikov). Statistic methods such as
Fischer’s angle transformation φ* criterion and Mann-Whitney U – criterion were used while processing the data. On the basis of the questionnaire post-graduate students and students writing their degree thesis have been divided into groups by application of an expert estimation: those using specific means of the time organization of scientific activity (MSATM) and those who do not use them. Processing of the results has shown statistically significant excess of an indicator on a scale of programming in a technique by V.I. Morosanova in case with the post-graduate students using MSATM, in comparison with the similar group of the students writing their degree thesis using MSATM. It allows to assert that in process of scientific activity development MSATM develop and become complicated. Hence, the stage of development of scientific activity can be referred to the conditions influencing the usage of MSATM.

According to the results, a stage of carrying out of scientific research (design of research, research conduction, and work registration) is not among the conditions influencing the fact of MSATM usage. We assume that qualitatively various kinds of means are used at different stages. Specific features of activity self-control (by the technique «Style of behaviour self-control») are among the conditions influencing the MSATM usage. In the group of post-graduate students it is possible to speak about such conditions as generated conscious self-control of any activity and ability to programming. In the group of students writing their degree thesis we can speak about the generated conscious self-control of any activity and ability to planning.

It is revealed that personal features (according to the technique "Mini-mult") can be referred to a number of the conditions influencing MSATM usage. It is characteristic of the post-graduate students using given means to be guided by external criterion – a social environment (increase on the 3rd scale) or by the internal criteria (increase on the 8th scale). The students writing their diploma thesis not using MSATM are peculiarly impulsive and extra punitive (increase on the 4th and the 6th scale).

Thus, we can draw a conclusion, that the general hypothesis put forward by us proves to be true as a whole. Conditions of MSATM usage are: a stage of scientific activity development, specific features of activity self-control and personal features. Personal conditions are, first, orientation to the external criteria of social environment for the coordination of joint activity or on own criteria for self-organization.

The general abilities to self-control and abilities to planning and to programming promote productive usage of MSATM. Impulsiveness and extra punitive characteristics interfere with use of MSATM.

These conditions are united into two big factors: namely, sociality and volition factors which are
designated by L. S. Vygotsky as distinctive characteristics of the higher mental functions. Thus, there are not only theoretical, but also empirical bases to consider ability to the time management of activity as the higher mental function mediated by external indicative-symbolical means, social as well as volitional. It proves the efficiency of consideration of the activity time management from cultural-historical methodology point of view.

Studying of means of time management of activity and conditions of their use expands the sphere of cultural-historical methodology application and allows to extend the propositions on indicative-symbolical mediation of the person’s mentalities to the questions of the time management of activity. In our opinion, methodological validity will allow to increase the efficiency of applied works «Time Management».
When observing in classrooms I have often heard the teacher saying “you have to use your own words, when presenting your part of the learning content for your classmates”. The situation in the Norwegian classroom is typically that groups of pupils have been working with parts of the overall theme. To make sure the pupils understand and appropriate their part and in order pass on the knowledge from one group to the classmates, the pupils make a short speech explaining what they have learned. If the pupil use the words of the book, the teacher do not know whether the child understands or just imitates without reflection. At the same time the goal of the teaching is the pupils appropriating and using the scientific conceptions, the teacher wants the pupils to use the words in the book.

In the classroom each pupil enters the group and influences the interactions and learning at the same time as the group affects the individual processes of learning. In this paper I focus on drawings as a mediator for communication in order to understand and learn by asking the question how does drawing the concepts and the contexts affect the communication, collaboration and learning in a group of pupils?

Theoretical foundation

In learning processes generally we are concerned about the use of language and concepts (Vygotsky 1978, 1962). In this study drawing is looked at as a way of expressing understanding and therefore as nonverbal “language”. Language is accepted as one of the main tools in learning processes for at least two reasons: 1) language supports the learner transforming experience and understanding to insight and meaning, 2) language supports communication and collaborative learning. Those two arguments for using language as a tool in teaching are central for this study. In kinder gardens drawing is used as at medium for understanding, but in primary school the focus gradually changes toward reading and writing. It seems as if we might lose some possibilities of learning on the way. Using drawing as a tool in learning is a way of teaching within the proximal zone of development, making demands to the pupils and scaffolding their learning processes (Wertsch 1991, Bruner 1999, Tharp and Gallimore 1988, Dysthe 1995, 2001 Bråten 2002, Rogoff 1990). Using language makes the pupils to listeners (Valsiner 2000), using drawings makes them to observers at the same time. Drawing is, in this project interpreted as a nonverbal language.

The Research Project
This study is part of a larger research and development project studying relations between learning and drawing and the possibilities of increasing and improving the learning by focusing on drawing. A team of two researchers are working in the project within a qualitative frame. Only a pilot study is done by the time of writing this abstract.

The pilot has been done in three classes on the seventh level. The subject was science and the theme was characteristics of different types of nature (dessert, savanna, tundra etc.). The teacher planned in order to use drawing as a tool when learning: The pupils were given a verbal oversight of the theme as an introduction. Then they were divided into groups for two lessons in order to work up a specific part of the curriculum covering the theme. The groups were reading, discussing and planning while drawing memos for a presentation. In the end of the observed lapse of four lessons each group presented their part of the subject content with drawn memos as the only supporting remedy. The pupils were given no restrictions about the content or the length of the memos as long as it was drawn, not written, and focusing on the subject matter. The pupils were in this way, forced to transform their understanding of the types of nature from written and verbal language (book texts and discussions) to drawings (memos) and back to verbal language (presentations).

This paper is based on teaching in lower secondary school. The progress of teaching is similar to the pilot, but the researcher and the teacher is now focusing more on the drawing as a tool for learning in collaboration. Data for this paper are gathered and constructed while observing a group of four pupils. The communication, the collaboration, the presentation and the drawings were in focus while observing. Each pupil was interviewed on beforehand to map their preliminary knowledge and interviewed again afterwards to map their final knowledge about the subject matter. The teacher was interviewed before this teaching course with focus on her expectances to the pupils’ learning and again afterwards about her experiences. Observations are recorded by log, interviews are digitally recorded and drawings are copied, all constituting the data for this paper.

Results

The pilot indicates drawing to be of minor importance for children doing well at school, of major importance for the learning for pupils where the teacher do have middles expectations to their learning, and of increasing importance for low achieving pupils when they are taught how to use drawings as a tool. In this paper these result will be discussed in relation to new data and in relation to learning in collaboration.

References

In studies of conditions and opportunities for children’s activity, learning and development in the socio-cultural contexts of childhood children’s drawings can be used as data (Fink-Jensen & Nielsen 2000, Fink-Jensen et al. 2004, Nielsen 1999). Knowledge about children’s drawing activities including appropriation of socio-cultural sign-use and transformation of meanings should be taken into consideration when research includes drawings as data and develop research methods including drawings. This knowledge can contribute to the development of drawing and art activity as a transformative learning method for psycho-social intervention for all age groups.

Children’s drawings present sensory information about children’s engagements, experiences and perceptual interactions with their world (Fink-Jensen & Nielsen 2000, Hedegaard 2007, Nielsen 1994). Drawings are a source of information expressed in the cultural codes and conventions for sign-use that children are able to use.

In the globalised world visual cultures meet, in the arts, in visual culture used by children and in their drawing activities such as for example young people’s graffiti (Hedegaard 2007). Children learn to use visual signs and codes according to socio-cultural conventions in the visual culture as they participate in visual practices of seeing and representing in drawing (Braswell 2006, Fink-Jensen & Nielsen 2000, 2009). As they learn how to use the tools for drawing and the contextual conventions for sign-use children appropriate and develop sensory opportunities to articulate their emotions, thoughts and engagements.

In the drawing activity itself and in the situation in the specific context, events, materials, tools and artefacts may appeal to the drawing child in ways that affect the drawing and the mediation of meaning. This should be taken into consideration in research.

The aim of this paper is to qualify analysis of drawings as data in empirical research and to reflect upon opportunities for aesthetic learning processes in psycho-social intervention from a socio-cultural participatory perspective.

Cultural conventions and symbolic realms

Visual cultural and culture-psychological research in children’s drawing activity has focused on participatory processes of pictorial socialisation as children learn cultural conventions for sign-use (Braswell 2006, Hansson et al. 1991). Culture-psychological research in gender characteristics in children’s drawings has focused on intersections of different activity-based symbolic realms in children’s drawings: between a realm of cultural visual conventions for gendered symbolic connotations, a realm of social interaction in the everyday life including gendered visual symbolic
connotations and a realm of existential expressions of the individual including gendered symbolic connotations (Nielsen 1993, 1994).

**Sensory appeal and attunement**

A phenomenological approach with the concepts of ‘appeal’ and ‘attunement’ provide opportunities to analyse the sensory-based dialogue and interaction between intentional subjects and material cultural artefacts, signs and meanings. Attunement is a situated interrelation between a subject and a sensuous impression that appeals to the subject depending on the subject’s intentionality, embodied experiences, and understanding (Fink-Jensen 2007). The subject participates in the mutual life world with other persons according to the subject’s intentions and experiences and relates to other persons and artefacts that may appeal to the subject (Nielsen 2001). The perceived objects, artefacts and other people may appeal to the perceiving subject as specific characteristics in the objects meet specific characteristics in the subject in a phenomenal field.

In the drawing activity and situation in the specific context various events and material tools and artefacts may appeal to the drawing child in ways that affect the drawing. This is important to take into consideration in research.

**Sensory appeal and cultural codes in analysis and practice**

Children’s perception and visual experiences contribute to the construction and transformation of meanings and narratives as they are mediated in children’s drawing activities (Nielsen 1994). The concepts of symbolic realms (Nielsen 1993, 1994), semiotic practices and conventions (Braswell 2006) and phenomenological concepts of appeal and attunement (Fink-Jensen 1998) are discussed and used to analyse the transformation of lived experience into construction of meaning in drawings. An analytical procedure is proposed and discussed.

The aim of the discussion is to qualify analysis of drawings as data in empirical research and to reflect upon opportunities for aesthetic learning processes in psycho-social intervention from a socio-cultural participatory perspective.
76. Moving from a monological theoretical perspective of emphasis on the “right answer” to an alternative dialogical perspective of emphasis on the “power of acting” in studying mathematical competences

Jorge Tarcísio Da Rocha Falcao - Yves Clot

Mathematics is traditionally seen as a school discipline that needs a set of previous cognitive tools and capabilities (Piaget, 1997), and on the other hand contributes to developing individual cognitive abilities (Kent, Noss, Guile, Hoyles & Bakker, 2007). It is important to note here that the unity of analysis to explain conceptual development and learning difficulties in mathematics education has been an individual characterized by a set of private mental tools which develop across time. Even when this individual subject is considered in interaction with other individuals, or making use of auxiliary cultural devices, he/she is seen as someone who receives informational inputs that are analyzed by his/her mental schemes, then produces outputs. This monological approach sees interaction as a kind of summing-up phenomenon among individuals. Concerning research in the domain of mathematics education, this approach could be summarized by four assumptions: 1. learning depends centrally on cognitive, mental resources of an individual subject. 2. Learning can be promoted by didactic initiatives covering artifacts, clarification of conceptual fields and didactic engineering for time scheduling and curricular content management. 3. Learning achievement or difficulties can be evaluated by the consideration of answers produced by students faced with mathematical problems; this evaluation tries to categorize individual answers mostly in terms of proximity of these answers to mathematical canonical knowledge. 4. Learning achievement or difficulties is set up in terms of an individual evaluative diagnosis, frequently expressed in quantitative terms.

A research study conducted by Da Rocha Falcão (1992) illustrates the approach above mentioned: the author identified a set of conceptual difficulties in algebra among French high-school (lycée) students (point 1), and then proposed a didactic scenario based upon computational artifacts (spreadsheets) in a typical quasi-experimental design, where he compared an experimental group who was offered the didactic auxiliary scenario with a control group, not submitted to it (point 2). After having analyzed answers of subjects from both groups to a set of evaluative questions, this author concluded that those who had passed the experimental condition could develop a better conceptual level when compared to subjects from the control group (points 3 and 4).

Some years later, a radically different analysis of these data allowed the same author to reach a different conclusion. Subjects participating in this research had been assembled in dyads, formed in
order to combine gender and previous level of school mathematics achievement (according to previous evaluation of these students’ mathematics teacher). There were completely homogeneous dyads, formed by boys or girls of the same level of previous achievement in mathematics; completely heterogeneous dyads, formed by a boy and a girl of different levels of previous mathematics achievement and partially heterogeneous dyads, with the other possible combinations of the two aspects mentioned above.

Clinical analysis of audio-recorded activity of these dyads allowed to observe that there were different scenarios of cooperative mathematical activity depending on dyads’ profiles: a completely homogeneous dyad formed by two high-level boys, showed very few cooperative interactions, being very competitive instead; nevertheless, the poorest cooperative activity was detected in a completely heterogeneous dyad, formed by a high-level girl and a low-level boy, the boy appearing very anxious and trying to mess up the work; on the other extreme, another completely homogeneous dyad, formed by two girls evaluated as medium-level by their mathematics teacher, showed the richest cooperative activity among all observed dyads. These clinical observations allow to conclude that what someone can do cannot be considered in the vacuum of his/her social network: two medium-level girls can easily develop a powerful cooperative work because of their social symmetry, in the opposition of the dispute and anxiety installed when a low-level boy and a high-level girl are supposed to work together. Power of acting in social activities is an important theoretical concept which refers to what someone can or cannot do, depending not only on his/her abilities but also on what he/she feels as possible, adequate, and convenient in real situations (Clot, 2008). Real, situated activity can limit or strengthen individual’s power of acting. According to Yves Clot, “…the task in itself cannot decide everything” (Clot, 2008, p.13). This theoretical perspective has three important consequences: firstly, it introduces the consideration of a dialogical perspective for the development of knowing; knowing is seen as depending on a personal, individual level, but also on an interpersonal (relational level semiotically mediated), transpersonal (concerning shared values, attitudes and targets inside social groups – Lave & Wenger, 1991) and impersonal (concerning historic cultural rules related to social genders) levels. Secondly, the dimension of affect is seen as intrinsically connected to human activity in any domain, since developing or blocking someone’s power of action has an effect in terms of emotions, affect and mental health (Clot, 2010). Thirdly, methodological approach of human activity must take into account not only actual, verifiable responses, but also what the individual cannot, or chooses not to express: all these possibilities enter the range of someone’s power of acting.

References
Activity Theory (AT), arising from the work of the Soviet psychologist, Vygotsky and his colleagues, has presented scholars who are interested in child development with a fecund theoretical basis with which to understand how socio-cultural factors impact on developmental trajectories. The strength of this approach to studying teacher/student interactions in classrooms is found in its ability to situate general developmental principles in time and place. A current version of this theory developed by Engeström (1987) elaborates Vygotsky’s work, providing a useful heuristic for analysing activity as a collective endeavour.

However, while providing a useful framework for studying human activity, Engeström’s activity systems work has yet to be fully operationalised in a classroom setting. That is, what is needed is a language of description capable of investigating the empirical reality we face as developmental researchers. It is primarily this methodological gap that this paper seeks to address. In a bold move, the paper begins by conceptualising pedagogy as an activity system, enabling the paper to elaborate an analytical framework for studying pedagogical practices in classrooms along the AT dimensions: viz. tools, rules, object, division of labour, community and subject. In this paper pedagogy is defined as a structured process whereby a culturally more experienced peer or teacher uses cultural tools to mediate or guide a novice into established, relatively stable ways of knowing and being within a particular, institutional context, in such a way that the knowledge and skills the novice acquires lead to relatively lasting changes in the novice’s behaviour, that is, learning (Hardman, 2007:8). This definition draws on the body of knowledge associated with Vygotsky’s conceptualisation of mediation (1978) and Engeström’s (1987) systems thinking. Vygotsky’s conceptualisation of pedagogy as involving mediation by a more competent peer or teacher within the zone of proximal development, informs this definition’s focus on teaching as involving mediation by an experienced ‘Other’. Engeström’s systems thinking enables one to conceive of pedagogical practices as playing out in a rule bound context in which power and control influence practice. Drawing on this definition of pedagogy, this paper presents an attempt to theorise pedagogy using Engeström’s notion of activity systems as units of analysis. This requires the development of a language of description capable of being able to track pedagogy in context. The high level concepts suggested by AT, therefore, need to be brought into play with the empirical data that informs this paper. While Hedegaard (1998), Daniels (2007) and Edwards (2005) have
mobilised AT concepts in their work, there is currently a dearth of methodological tools available with which to analyse pedagogy using the systems thinking arising from AT. To meet this need, this paper represents the first steps in the development of a language of description derived from AT to investigate pedagogy. It is hoped that this paper will open a methodological discussion about using AT to study pedagogy. The empirical work used to animate the framework developed here is drawn from a grade 6 mathematical classroom in a disadvantaged school in a rural area of the Western Cape Province, South Africa.

The paper begins to develop a language of description by outlining Vygotsky's triadic theory and using Leontiev's work to elaborate on this, before going on to discuss Engestrom's version of Activity theory. For this paper, Engeström’s systemic model enables one to view pedagogy along the following dimensions:

1. Subject: The subject of the pedagogical activity system is the teacher.

2. Mediating artefact: In a crude formulation, one might view tools as resources mobilised by the teacher. Significantly, these tools mediate thought during the interaction between the subject and the context within an activity.

3. Object: The object of an activity system represents that problem space that the teacher and students are working on. For conceptual clarity, this paper draws on Engeström’s understanding of the object as “the ‘raw material’ or ‘problem’ space’ at which the activity is directed and which is moulded and transformed into outcomes with the help of physical and symbolic, external and internal mediating instruments, including both tools and signs” (Engeström, 1987,79).

4. Rules: The norms, conventions and social interactions of the classroom, which drive the subject’s actions are referred to as rules in AT.

5. Community: The teacher is a member of a community who participate in acting on the shared object. There is division of labour within the community, with responsibilities, tasks and power continuously being negotiated (Cole & Engeström, 1993).

6. Division of labour: This is both vertical and horizontal and refers to the negotiation of responsibilities, tasks and power relations within a classroom as well as across the school.

The paper concludes by illustrating how one can operationalise Engestrom's systems thinking in relation to observational data.
81. Mind the Gap: Investigating the developmental impact of variation in semiotic mediation in schools

Joanne Hardman - Garth Spencer-Smith

The distinctive characteristic of human learning is that it is a process of meaning making- a semiotic process: and the prototypical form of human semiotic is language. Hence the ontogenesis of language is at the same time the ontogenesis of learning.

This quote from Halliday highlights the importance of language in learning. What Halliday does not point to, but what Vygotsky elaborates, are the cognitive effects of semiotic mediation. This paper is not a language or linguistics paper: we are aliens in those lands. What this paper is about, is how differences in semiotic mediation potentially differentially impact students’ developmental trajectories. To be clear: access to semiotic mediation in school will develop the child’s cognitive functions in certain ways. Vary the semiotic mediation due to context and you potentially vary the developing cognitive functions. So while we will sometimes use the language of a linguist, this paper is ultimately a psychological paper. Our argument hinges on the Vygotskian (1978) general genetic law, which indicates that we develop cognitively through dialogue with others. The paper outlines Vygotsky's theory of mediated learning in some depth before going on to argue about the developmental importance of semiotic mediation.

Vygotsky’s theory of learning provides us with a view of pedagogy as involving the mediation of scientific/subject-content concepts within the ZPD by a more culturally more competent other. This is a profoundly different view of pedagogy to the more traditional notion of pedagogy which views students as empty vessels waiting to be filled by the expert pedagogue. In Vygotsky’s theory the expert pedagogue is absolutely essential to learning but this happens in a dialogical space where the active student participates in his/her developmental trajectory. The primary vehicle through which development happens in this pedagogical theory is language. This theory, however, leads to a potentially problematic issue: variation in semiotic mediation leads to differential cognitive development (Hasan, 1992).

Variation in semiotic mediation and its cognitive consequences

The importance of semiotic mediation in the development of higher cognitive functions must lead us to ask about the cognitive outcomes of variation in semiotic mediation. What happens when children are not uniformly given access to the requisite semiotic mediation to help develop, for example, syllogistic reasoning or categorical thinking? In his famous studies in Uzbekistan, Luria
(1976) found that:

Categorical classification involves complex verbal and logical thinking that exploits language’s capacity for formulating abstractions and generalizations for picking out attributes, and subsuming objects within a given category… ‘categorical’ thinking is usually quite flexible… The ability to move freely, to shift from one category to another, is one of the chief characteristics of ‘abstract’ thinking’ or the ‘categorical behaviour’ essential to it.

Luria, 1976: p.77

Rather controversially at the time and since, Luria found that categorical, abstract ways of thinking were intricately linked with formal education, in particular with schooling. Those participants in his study who had little or no access to formal schooling simply were unable to think in the categorical ways outlined by Luria. Much has been written about Luria’s work and there is a pervasive ideological misunderstanding that people tend to place on his findings, this is not the place to argue the merits of his work. What his work does suggest is that access to different semiotic mediation during development will lead you to think in very different ways. This becomes important in relation to pedagogical practices in South Africa, where previously disadvantaged schools are being given access to computers. Will semiotic mediation remain constant whether one teaches mathematics in a face-to-face classroom or a computer classroom? Or will the different contexts impact on semiotic mediation? And what will this mean, developmentally? In our study we attempt to investigate whether semiotic mediation varies across contexts in schools and, if so, what the potential developmental impact of this is in underprivileged South African schools. We do this by investigating semiotic mediation in both primary and secondary schools in South Africa, comparing teachers' semiotic mediation in face-to-face mathematics lessons and computer-based mathematics lessons. Findings indicate that semiotic mediation differs considerably across the two contexts, with teachers utilising explanations and questions as cognitive tools in the face-to-face lessons and not relying on these tools in the computer based lessons. This suggests a potential impact on students' future developmental trajectories.
This paper uses CHAT to examine and explain the varying outcomes of organizational transformation in four research and technology organizations in four developing countries (Ghana, Botswana, Trinidad and South Africa). The purpose is to provide theoretical understanding on how systemic (trans)formations in the organizations’ activities influenced the level to which their desired needs are attained. The transformation process is underlined by the implementation of a best management practices model (Mengu and Grier, 1997). By implication, the organizations sought to use the model to replace their prevailed-object of activity (i.e., carrying out research under full government funding) with a new object of activity (i.e., to carry out commercial-oriented research activity under reduced government funding, but with the capability to self-generate income). After six years of organizational activity transformation in each of these organizations, their leaps towards the attainment of this new object measured differently and which phenomenon is studied. The organization in Ghana was able to self-generate only six percent out of an expected thirty percent. The organization in Trinidad was able to self-generate sixty percent out of an expected eighty percent. The organization in Botswana failed to self-generate any income. Only the organization in South Africa was able to self-generate income up to its seventy percent expectation. Data was collected from identifiable groups (agents) such as the management team and staff members by triggering the conflictual questioning of the existing standard practices in the organizations. In the study approach, a preliminary phenomenological insight into the nature of the discourse and problems as experienced by those involved in the activity was firstly gained (Engeström, 1987), before the activity system under investigation was delineated. This provided the space for grasping the need state and primary contradiction beneath the surface of the problems, doubts and uncertainties experienced among employees who are the participants of activities in the organizations. Comprehensive reading of the internal and public discussion concerning the activities in the organizations are undertaken through participant on-site observations and discussions (interviews) with employees involved in specific activities or having expertise about it, and the conduction of problem-identification workshop (Junk and Mullert, 1987; Sanda, 2006) Historic developments (Engeström, 2001) associated with the transformation that occurred in the organizational activity systems of the four organizations is analyzed. The result shows that the dictating factor in the variable outcomes in the organizations’ transformation processes is the
(in)ability to deal with the systemic interfaces in their organizational activity systems. The functionalities of these interfaces are found to influence the functionality of the organizational activity system and the corresponding output that emerges from it. Theoretical analysis (Engeström, 1987) of the varied outcomes shows that the transformations in all the four organizations are underlined by the setting of similarly new objects of activities (i.e., income-generation). The theoretical expectation here is that such new object of activity will be divided by the distribution interface of the organizational activity system, after which it is to have been parcelled out by the exchange interface in accordance with its collective needs (Engeström, 1987). This is based on the theoretical presumption that by parceling the object in accord with the organization’s collective needs, the consumption interface in its activity system will lead to the product (i.e. income-generation) stepping outside this social movement so that it becomes a direct object and servant of individual needs within the organization (Engeström, 1987).

The outcome variability of the transformation processes of the four organizations is explained to imply that the unifying process that the interfaces of production, consumption and exchange are expected to create in the collective activity system of the organizations materialized for the organization in South Africa), but did not materialize for the organizations in Ghana, Botswana and Trinidad. Also, the production that emerges from the transformation processes is able to create the new object to meet the need of the organization in South Africa, but not for those in Ghana Botswana and Trinidad. Though an element of distribution is observed in the activity systems of the organizations in Ghana and Trinidad, its exchange did not materialize. For the case in Botswana, there are no distribution and exchange in its collective activity system. The exception here is the organization in South Africa in which there is a distribution of activities, and for which exchange also materialized. The analysis also shows that the consumption interface in the activity systems of the organizations in Ghana and Botswana is constrained. This is because the production factor could not become the direct object of individual needs in these organizations. With respect to the organizations in Trinidad, this consumption factor is evident, but it is slightly affected in a negative sense due to the inability of the production factor to totally become the direct object of individual staff needs in the organization. But for the organizations in South Africa, the consumption factor is evident. This is due to the ability of the production factor to step outside the social movement in the organization to become the direct object and servant of individual staff needs.

From an organizational activity perspective (Max, 1973; Engeström, 1987), it is concluded that in the organizations’ transformation pursuit, the production factor of such process should have been seen by each organization as the consumption of their individual staff’s abilities and, also as the means of production (organization in South Africa). Correspondingly, the organizations should
have also seen the consumption factor as a production of their individual staff members and also a key factor for internalization to occur among the staff (organization in South Africa). Similarly, the organizations should have seen the distribution factor as not just a consequence of production (organizations in Ghana, Botswana and Trinidad), but also as its immanent prerequisite in the form of the distribution of the instrument of production as well as the distribution of members of the organization among the different kinds of production (organization in South Africa). Finally, the organizations should have found the exchange factor inside their production in the form of communication, interaction and exchange (organization in South Africa).
A practice of any definite psychological approach enables us to understand better some general regularities (laws) of personal development in cultural context. An analysis of psychotechnical characteristics (Vygotsky L.S., Puzirei A.A., Vasilyuk F. Ye.) of an approach and corresponding activity and development of a person may become a method of studying and revealing social-cultural development of a person.

Any definite psychological approach might be seen as a social dispositive, i.e. “a radically heterogeneous assembly”, including discourses, institutions, regalement decisions, laws, administrative acts, scientific statements, philosophical as well as moral and philanthropic positions” (M. Foukault).

It is necessary to stress that a person is included into intensive real communication and interaction with other persons (therapist, teacher, instructor, etc.), who not just “practice” the approach, but enact it in their life and communication. So such mechanisms of social learning occur as identification, modeling (vicarious learning according A. Bandura), feedback and correction, conscious self-regulation.

It is necessary to take into consideration also that besides close personal dialogue with a counselor or instructor there are axes to literature, professional organizations and professional events (conferences, seminars, forums, etc.), to system of professional education and practice. All these cultural formations became “the world” of a person with its heroes, myths, symbols, relationships and tasks. And the person develops to fit the “world”.

Dialogical communication in the process of acquiring of the approach may reveal a personal work on comprehending, making sense of the “world” and one’s position in it, using cultural signs as means of organizing and regulating of one’s activity.

An analysis of psychotechnical characteristics of an approach and corresponding activity and development of a person may, then, become a method of study and revealing a social-cultural development of a person.

A Person-Centered Approach as a psychological practice originally developed by Carl Rogers is widely used all over the world. A development of person in a process of the Client-Centered Therapy or Student –Centered Education may be a proper model for understanding a development of a person in cultural context in general. The Person-Centered Approach steps far beyond psychotherapeutic site in our days, so it might be viewed as a (sub)cultural trend.

There are some definite and significant characteristics of PCA as a subculture and psychotechnical
system. There is an evident emphasis on unconditional positive regard to a person, attention and empathic understanding of a person. Congruence, i.e. being sincere and open with a person, is also underlined. A general positive view of a person and faith for constructive and fully functioning life is implicit for the Person-Centered ethos.

Carl Rogers stressed as one of conditions of the approach that congruence, empathy and unconditional positive regard should be communicated to a person. Empathy (as a co—experiencing) and empathic listening in a process of practicing the Person-Centered Approach along with their effect for a growing person may be viewed as a method of revealing and study of personal development. Indeed, we may observe and understand a personal work on comprehending of one’s life, searching for meaning and putting the meaning onto one’s life, constructing personal “world”.

In our empirical research (2002-2010) we studied a development of a person in a process of learning and using the Person-Centered Approach. In special series with Russian and American respondents (2002-2004) we discussed their self-evaluations on scales of Dembo-Rubinstain of their changes and developments. Also we interviewed a number of students of Moscow State University of Psychology and Education after their studying of a class on the Person-Centered Approach. The main results are the following.

1. Respondents report unique individual changes.
2. Yet, all 100% of respondents report a substantial growth of competence in relationships.
3. 97% of respondents report deeper and better understanding themselves (“coming to oneself”), people around and deeper comprehension of life. They report growth of self-regard and regard to others.
4. A striking result is a report of accepting responsibility (by 71 % of respondents) for one’s actual experience and for one’s life in general.
5. Also people say about positive change in their worldview (65% of respondents).

So, it is possible to conclude of definite positive personal development in dialogical subculture of the Person-Centered Approach. The results may be viewed as enacting of the Person-Centered culture in personal life of people who acquired the approach in their life. And it might be an model of cultural development of a person in a definite cultural context.

References.
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This work combines two influential approaches in developmental psychology, Piagetian and socio-cultural, i.e. Vygotskian paradigm. Although formal thinking concept originates from Piaget’s theory, cognitive attainments that have been related to this concept are highly relevant for Vygotskian understanding of final achievements of cognitive development. Piaget gave social interaction a crucial role in transformation from egocentric to socialized thinking. Peer interaction had central place in that process because social constraint is not characteristic for this kind of relationship, unlike that of child-adult relationship. Later, when he discovered sensorimotor intelligence, Piaget stated that logic of action was a developmental precursor of logical thinking which led to the conclusion that language and social interaction have no longer a formative role in thinking development since logic of action precedes emergence of language. After that Piaget’s theory was frequently criticized for neglecting the role of social factors in cognitive development. This critique is only partly justified because Piaget repeatedly claimed that although not sufficient, social factors were necessary for cognitive development. The role of social interaction is particularly important in development of formal operations. Piaget emphasized that “…individual would not come to organize his operations in a coherent whole if he did not engage in thought exchanges and cooperation with others”. Furthermore, in his later works, dealing with logical thinking, Piaget stressed peer interaction as an important factor. However, he never empirically tested the peers’ role in cognitive development. His followers recognized the importance of peer interaction for cognitive development and created a rich corpus of empirical data basically in the domain of concrete operations development. On the other hand, authors from socio-cultural perspective following Vygotskian ideas thoroughly investigated adult-child interaction and the consequences of difference in partners’ competences on cognitive development in the process of adult’s assistance within child’s ZPD. In the meantime, those two perspectives got closer and made the understanding of phenomenon of peer interaction and its role in thinking development broader and more profound. Namely, Piagetians diverted attention to the importance of peer interaction for cognitive development and Vygotskians emphasized the relevance of asymmetry in peers’ cognitive competences.

The relevance of this research lies in examination of the role of peer interaction for development of highest thinking forms, i.e. formal-operational thinking, as well as in being based on theoretical and empirical foundations from the tradition of Piagetian and socio-cultural approaches. The main goal was to answer two questions: whether asymmetrical peer interaction influences formal thinking
development and which aspects of peer interaction could support it. Research had experimental
design: pre-test, intervention and post-test situation. After pre-test situation 47 asymmetric dyads
were formed. They consisted of a more competent and a less competent student, regarding formal
thinking ability, who were solving formal operational tasks together during the intervention. The
focus was on influence of joint task-solving on the less competent partner's ability. Competence
difference across the dyads was approximately the same, which is accomplished by using IRT
technique. There were two control groups: in the first one students were solving formal operations
tasks individually; during the intervention and in the second one were students who did nothing
during that period. Control group students were identical to less competent students from dyads
regarding their formal thinking competences and gender. Students were aged 12 to 14 (period of
formal thinking emergence). Formal thinking was examined by Bond's Logical Operations Test
(BLOT). Three levels of analysis were applied. The first one was quantitative comparison of pre-
test/post-test performances on BLOT among less competent students from dyads and two control
groups. The second level correlated dimensions for peer interaction description and progress of less
competent students from dyads. For this purpose, an instrument of 14 dimensions was developed on
the bases of theoretical and research grounds from Piagetian and socio-cultural perspective. The
third level was qualitative and analysis of whole students’ dialogue in four most successful dyads,
in which less competent partners advanced most on the post-test, and analysis of four most
unsuccessful dyads in which less competent partners regressed after the interaction. MANOVA
shows that less competent students from dyads and students who solved tasks individually advanced
in the same degree on the post-test unlike the students who did nothing during the intervention
(F(2,125) = 4.109, p<0.01, Wilks’ lambda=0.938). Only two out of fourteen dimensions of peer
interaction are related to performance of less competent students from dyads on the post-test. On
one hand, the dimension which describes emergence of insight, i.e. understanding of the task by the
less competent student after the argumentative explanation given by his more competent partner, is
related to progress of the less competent students. On the other hand, there is a negative correlation
between dimension regarding the submissive behaviour of less competent students and their
performance on the post-test. Qualitative analysis shows that four dialogues that led to regressions
of less competent students have numerous similarities. Their characteristics are poor
communication and absence of dialogue properties that are marked as encouraging by researchers
from both approaches (argumentation and justification of proposed task solution by the more
competent partner, development of shared understanding in the course of communication, partners’
reciprocity, participation of both partners in the process of argumentation). Dialogues that resulted
in progression of less competent students are not homogeneous. Some of them incorporate the
The aforementioned encouraging characteristic of conversation but others are much more similar to unproductive dialogues. However, it is apparent that cognitive engagement of less competent students in the conversation is the main characteristic which distinguishes successful dialogues from unsuccessful ones.

Results suggest that individual construction as well as co-construction are important factors of sophisticated forms of thinking. This is in accordance with Piagetian and Vygotskian theoretical perspective. Asymmetrical peer interaction which supports the development of formal thinking presupposes: cooperation and engagement of both partners in the task solving process, active involvement of the less competent partner in the dialogue, argumentative discourse of the more competent partner and establishment of inter-subjectivity between partners.
Individual system of self-regulation integrates dynamic and contextual, conscious and unconscious structures of personality. The three levels model of self-regulation helps to explain connections between certain parts of this system. The first level is the level of self-regulation of psychic states, supporting the needed activation level. The second is the operational level, providing conscious planning, fulfilment and correction of subject’s activities. The third, motivation level allows to realize the motives of activity and to control them. The model helps to explain some reasons of poor progress in school learning.

Research goals and objectives
The goal of the current research was to define specific problems of self-regulation of schoolchildren in the age of 8-9 years and to trace them in the age of 11-12 years. According to this goal the research had following objectives:

1. To define the defects of the level of self-regulation of psychic states and to find out how they effect on self-regulation of learning activity.
2. To find out possible compensation actuators of self-regulation defects.
3. To explore the influence of the family upbringing on the maturing of the motivation level of self-regulation.

Research hypothesis:
1. The level of self-regulation of learning activity depends on the functioning of the level of self-regulation of psychic states, provided by the 1st block of brain. Some defects of the first level could be compensated, more serious defects prevent from maturing of the conscious self-regulation even in case of safe intellect.
2. The main compensation actuator of those defects is maturing of the motivation level of self-regulation, provided by the 3rd block of brain.

Research Sample
The research sample consisted of 60 schoolchildren of 8-9 years old with intellect within the age norm not having severe somatic diseases. At the second step the age of children was 11-12 years. According to their school results the schoolchildren were divided into two groups:

1. Successful pupils
2. Pupils having problem with learning

Research methods
The basic method applied was the Luria’s neuropsychological battery of tests, adapted by
A. Semenovitch. The Bourdon’s Correction test was also included. The motivation level was studied with the tests of M. Guinsburg, O. S. Grebeniuk and A. K. Markova. The questionnaire of Eidemiller and Yustizky “Analysis of Family Upbringing” was used for exploring of the family upbringing style.

Research findings

According to the results of neuropsychological tests the composite score of every subject was calculated. By the application of the Mann-Whitney test the statistically significant differences between the groups of successful pupils and pupils having problem with learning were obtained. The same results were obtained by the comparing of attention indexes calculated in the Bourdon’s Correction Test.

It should be mentioned that all the children having taken part in the research have some degree of deficit of subcortical and stem structures. Either successful pupils or pupils having problems with learning have those features, thus the pupils from the first group have better compensation of those defects.

All the pupils having taken part in the research have showed high level of learning motivation.

The group of successful pupils was divided into three subgroups according to the results of neuropsychological tests. The main difference was the level of functioning of their frontal structures.

Group A. High level of self-regulation. The frontal structures of brain compensate deficit of stem and subcortical structures. The subjects from this group are the best pupils of their classes. The leading level of self-regulation is motivation level. The family upbringing style could be characterized as adequate providing conditions for maturing self-sufficiency.

Group B. Middle level of self-regulation. The frontal structures are in the process of maturing and do not always compensate the defects of stem and subcortical structures. 80% of parents show high level of hyper protection, preventing from development of self-control of their children.

Group C. Children show functional immaturity of frontal structures. Low level of self-regulation combined with good results in learning. The possible explanation of that fact is high degree of adults’ control of the whole activity of a child. The parents in this group show the highest level of hyper protection.

The pupils having problems with learning formed the Group D.

The main problem in this group is irregularity of learning activity. They have problems with attention, they often misbehave. Although some families have adequate upbringing style, it can not compensate the defects and those children need psychological help.
Research findings of the second step

At the second step all the children showed much better results in the neuropsychological tests. That can be explained by the functional maturing of the brain. The second fact concerned the learning motivation. If in the age of 8-9 years almost all the children demonstrated high level, in the age of 11-12 it differed from high to low.

The group with high level of self-regulation increased by joining of 3 boys having showed middle level at the first step. 7 children demonstrated the level of self-regulation higher than at the first step, 5 of them have adequate style of family upbringing since the first stage and in the families of the other two the style has been changed from the hyper protective to adequate. Changes to the worse (lower level of learning motivation and worse term marks) showed pupils from problem families (high degree of hyper protection or lack of self-confidence as a parent).

Summary
1. The self-regulation of learning activity depends on the maturing of the self-regulation of psychic states, provided by the 1st block of the brain.
2. Some defects of self-regulation of psychic states can be compensated. More serious defects prevent from maturing conscious self-regulation of activity even in the case of safe intellect.
3. In the age of 8-9 years begins the adoption of motivation level of self-regulation as a leading one.
4. The main compensation actuator of the defects of the self-regulation of psychic states is maturing of the motivation level of self-regulation, provided by the 3rd block of brain.
5. The style of family upbringing has influence on the maturing of the conscious self-regulation.
Enhancing Social Collaboration between Humans and Technology in the Digitization of Deep Mining Activity

Mohammed-Aminu Sanda - Lena Abrahamsson - Bo Johansson - Jan Johansson

This paper discusses the use of organizational activity theory to address concerns on the best way to digitized human work that can lead to the creation of a harmony between the human, technical and the social system, towards increased productivity in the deep mine industry. The aim is to develop the requisite knowledge on the use of social networking technologies (new communication models) to design highly digitised work activity in which open collaboration can be enhanced between the human and the technological functions of the work that will make cross value chain optimisation a reality. This is because, world’s metal mining industry faces a number of challenges covering the whole mining and minerals which must be addressed with using both the socio-technical approach (Abrahamsson and Johansson, 2008) and organizational activity approach (Sanda, Fältholm and Abrahamsson, 2010). As such, mining industries need new mental images of themselves based on new technologies with a modern work organization that supports high productivity as well as good working and social conditions (Abrahamsson, Johansson and Johansson, 2009).

Thus in the digitized mining activity, the human is simultaneously engaged in physical activity (through the manipulation of digitised computer technology to programme robotic work tasks) as well as in mental activity (through digitized communication models, by listening to background music during work, information transmission from the mines control centres, and/or from colleagues approaching or leaving the individuals activity location inside the deep mine). This therefore gives rise to the question of the kind of learning that can be made by studying and understanding the human activity component of the digitized mining activity, and how such learning can be used to improve future work design of mine activity that can result in increased productivity, improved quality of work life, positive negotiation of tasks, and the evolution of tacit knowledge.

Data is collected using observation and video-recording of miners’ activities, as well as recorded interviews with the miners during four separate visits (shifts) in the company of mineworkers to the mine work environment 1.3 kilometers below the earth surface. Each study visit lasted seven hours which is the work duration for each shift.

The Systemic-structural activity theory (Bedny and Karwowski, 2007), a modern synthesis within activity theory which brings together the cultural-historical and systems-structural strands of the
tradition with findings and methods from Western human factors/ergonomics and cognitive psychology (Bedny and Karwoski, 2007) is used. The SSAT entails the conceptual application of both organizational activity and macroergonomics. The rationale for using these theoretical approaches is that these theories, in their own approaches, provide dynamic views of strategic practices in organizations, and also help explain the role of such practices in organizational change (Sanda, 2006; Jazarbskowski, 2003). This theory avoids the current trend whereby most of the works within activity theory are restricted to the sociocultural approach to activity study, with the individual-psychological approaches to activity study, which are basic to the study of human work, usually not discussed (Bedny and Karwoski, 2007). The individual-psychological analysis of activity includes the informational (cognitive), the morphological, the functional, and the parametrical methods of activity analyses (Bedny, Karwowski and Bedny, 2001). All of these methods are considered to be interdependent and are logically organized according to stages and levels of the activity analysis. This allowed for the obtained data to be tied together into a holistic system (Bedny and Karwoski, 2007). Therefore in the analysis of deep mining activity, both the sociocultural and the individual-psychological analyses are conducted.

In the activity analysis, the persons engaged in the mine activity, what their intentions, goals and motives are, and what type of activity they are involved are considered important. The main unit of analysis is the mine production activity. The sub-unit of analysis is carried out at two levels. These are the “object oriented” activity level, and the “subject-oriented” activity level. The object-oriented activity is analyzed from the perspectives of individual miners using technological tools (highly mechanized equipments) in breaking the rocks (material objects). The subject-oriented activity is also analyzed from the perspectives of the individual miner and his subjective interaction with the communication models and the technological tools as social objects.

Based on the analysis, it is argued that since organizations possess technologies (i.e. techniques for processing raw materials and/or people) for accomplishing work, organizational activity then emphasizes a work system design in which technology affects social relations in organizations by structuring transactions between roles that are building blocks of an organization. In this respect, it is argued that application of systemic-structural activity theory stands to provide an understanding of the various processes that is entailed in digitized human work which can be used to design a harmonious work environment integrating the human, technical and the social system, towards increased productivity in the deep mine industry. The significance of such harmony creation is defined by the realization that in order to enhance the development of intelligent automation systems for industrial firms, there is a need for the creation of knowledge on the harmonious integration of technological, organizational and human systems. This is because such integration
will stand to provide the basis for the evolution of a community of practice at the workplace. It is concluded that the systemic-structural activity theory can help understand how to optimize a work system’s design, such as the digitized mine activity, in terms of its sociotechnical system characteristics. Based on this understanding, the characteristics of the overall work system design can be carried down to the design of individual jobs, as well as human-machine and human-software interfaces in order to ensure a fully harmonized work system. When this goal is achieved, the results should be dramatic improvements in various aspects of organizational performance and effectiveness (Hendrick and Kleiner, 2002).
The purpose of this presentation is to illustrate the effectiveness of remediation programs guided by the ideas of Lev Vygotsky and Alexander Luria for the psychological treatment of children with developmental deviations. According to their theory, the higher psychological functions are characterized by three main features: 1) social genesis, 2) system structure, and 3) dynamic organization and localization (Vygotsky, 1981; Luria, 1966). Our approach to remediation (Akhutina, 1997, Akhutina, Pylaeva, 2008) proceeds from these three principles of neuropsychology.

Based on the Vygotsky-Luria principle of sociocultural origin of mental functions, we suppose that effective remediation can occur in the process of child-adult (advanced child) interaction, organized in accordance with the rules of internalization process. Following the Vygotsky's and Galperin (1957) ideas we think that during the course of remediation three parameters of child-adult interaction are changing: 1) joint common child-adult action becomes child's individual self-dependent action, 2) mediated by external (visual materialised or verbal) program action changes into an action mediated by internal program, 3) step-by-step full-scale action becomes reduced covert action. In other words, the transition from joint child-adult co-actions with external tools to the child's individual action with inner tools is a necessary condition for effective remediation.

On the basis of the principle of the systemic structure of mental functions, the psychologist aims their help at the weak component of the child's functional systems. For this purpose it is necessary to program changes of adult and child roles: the psychologist takes on a role of a weak component, brings it up gradually and "passes" it to the child. The interactive scaffolding is gradually withdrawn. Let us give some details. After diagnosing the weak and strong components of child's psychological functions, we program the course of remediation. We choose tasks which the child can fulfil basing on his/her strengths and receiving our assistance to manage weak component functions. In order to "pass" weak component functions, we range tasks from simple to difficult relative to this component. For this purpose we take into consideration the complexity of 1) operations a child has to do, 2) material and 3) context of these operations.

The principle of dynamic organization and localization of psychological functions reflects ontogenetic changes, changes during the process of skill acquisition, selection of strategies and changes depending on emotional state of the child. It is very important to organize the optimal level of activation in order to have optimal functional system for fulfilling the action - emotional
involvement of the child in the interaction is one of necessary conditions for such functioning. If emotions are child's strengths, they help the child, if they are weak, they are the first goal of remediation.

Summing up we can say that for effective remediation the psychologist works in the child’s zone of proximal development, carrying out the current qualitative analysis of child’s difficulties and helping him/her in the weak link of functional system.

To demonstrate this approach we will discuss the results of the experimental study accomplished by N.M. Skityaeva and N.M. Pylaeva. The methods of the development and remediation of visual-verbal functions were elaborated by N.M. Pylaeva and T.V. Akhutina (1999, 2008). 26 children with risk of learning disabilities (the delay of cognitive and language development) from preschool training groups participated in the study. 10 right-handed and 8 left-handed children (mean age 6.5) were in the first and the second experimental groups respectively, and 8 children (right-handed, mean age also 6.5) were in the control group. During school year the children of the experimental groups had 3 remedial lessons (each lesson for 30 – 45 minutes) twice in a week. The first lesson was devoted to the development and remediation of visual-verbal functions and literacy. The second lesson was aimed at development of executive functions (“School of attention”, Pylaeva, Akhutina, 1995, 1997) and elementary mathematical notions. The third lesson conducted in gym-hall included self-regulation motor games and games that required visual-motor and visual-spatial functions. The control group of children was trained in preparatory groups in accordance with the official remedial program of education.

The program for remediation of visual-verbal functions (“We Learn to See and Name”, Pylaeva, Akhutina, 2008) is based on the assumption that the development of language and perception (especially vocabulary and mental lexicon) is interconnected. The method is directed to development of children visual (object) perception and visual memory; visual attention and elaboration of connections “visual object – word”. The psychologist varied the modes of the method in accordance with neuropsychological features of children.

At the beginning of the remedial program the children of the three groups showed the delay in the development of language and visual functions and did not differ statistically by all language and visual functions indices. At the end of the school year the children of experimental groups showed significant progress in language and encoding of visual-verbal information. The dynamics of nominative functions and visual functions in 3 groups of children is presented in the table.

The dynamics of language and visual functions in 3 groups

Groups Nominative functions tests Lexicon in connected speech Visual perception tests Visual errors in perception tests

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Significance of differences between groups 1 and 3 p=0,018* p=0,022* p=0,001*** p=0,048*
Significance of differences between groups 2 and 3 p=0,048* p=0,027* p=0,035* p=0,03*

After the remediation course 14 children of the experimental groups continue their education in mainstream classes, and only 4 out of 18 children study in remedial classes. In the control group only 2 children received recommendations for mainstream classes, and 6 out of 8 had to continue remedial education.

These results show the effectiveness of programs based on the ideas of Vygotsky and Luria for the psychological treatment of children with risk of learning disabilities.
102. Doing reasonable hope within a cultural-historical activity framework

Mariechen Perold - Marietjie Oswald

The education and health systems in South Africa are overburdened by complex and interrelated conundrums that desperately beg to be solved. As lecturers in a department of educational psychology at a higher education institution in the Western Cape Province of South Africa, we are deeply aware of the multitude and complexity of the challenges that need to be addressed. We train teachers, learning supporters, counselors and educational psychologists and do our research in local schools and other institutions in the near vicinity of the university. The central vision of every academic programme is to prepare competent and confident practitioners that value diversity, promote inclusion and develop relevant theories and practices for our country in need of collaborative problem-solving and change. Our research activities dovetail with this vision. In this paper we build a case for a conceptual framework that we have come to appreciate in our work with students and practitioners. We find it sufficiently relevant, robust and broad-based to offer a platform from where to engage with social and educational challenges. Our conceptual framework include aspects of the work done by Engeström within cultural historical activity theory (CHAT), as well as the notion of ‘doing reasonable hope’ as developed by Weingarten (2007). The focus of this paper is not on our collaborative projects per se, but we will present one example drawn from a research project to facilitate the implementation of inclusive education in a historically disadvantaged primary school by means of a tool, the Index for Inclusion to elucidate our conceptual framework.

We draw on two conceptual tools offered by Engeström: his mediational triangle and notion of expansive learning. Third generation activity theory is fore-grounded in this paper. It is intended to develop conceptual tools to understand dialogues, multiple perspectives, voices and networks of interacting activity systems. The potential for change and innovation is embedded in the notion of expansive learning as propagated by Engeström (1987). Expansive learning is well suited to circumstances where people and organisations have to learn something that is not stable or not even defined or understood ahead of time and where the need is to construct a wider alternative context.

In our conceptual framework we present three interacting triangles representative of our sphere of influence. In Activity System A teaching is the central activity. In this activity system we (the authors) position ourselves as subjects, employing the toolkit presented by educational psychology to facilitate student learning as object in order to reach the outcome of students being able to function as innovative practitioners. In Activity System B the activity can be identified as learning in and from practice. Here our students as subjects join the communities of schools and other
institutions in the nearby vicinity of the university as sites of practice where they are given the opportunity to practise (externalise) their internalised theoretical knowledge and skills inspired by the toolkit of educational psychology within the everyday realities of the workplace. As object of the activity system we envisage a gradual immersion in the complexities of practice with expansive learning the outcome. Activity System C has as central activity collaborative and participatory research. The subjects of this activity system include us as researchers, our students as researchers and our research participants as co-researchers. A comprehensive research toolkit mediates the activity. The object under construction is the exploration of innovative and collaborative approaches to enablement. In this particular activity system the notion of collaborative object construction, that is in effect fundamental to all the activity systems under discussion, is fore-grounded. Collaboration within the Engeström model is clarified as taking place between people but through object construction. This implies that the focus is on neither individual learning nor collective learning, but on how they can both be directed and organised toward developing shared objects. It is, however, not easy to reflect jointly on practices and to pursue transformations by asking questions, constructing models and visions, and examining novel pedagogical approaches in practice. A process of collaborative object construction with our students and research partners call for a strong commitment to dialogue and the production of spaces where one will find a fusion of diversity that facilitate mutual understanding. Here we offer Rule’s (2004) concept of dialogic space. His conception of dialogic space means to have the power and room to act. Dialogic spaces provide a safe environment, encourage openness and trust, and facilitate critical engagement within and among participants, and between participants and their worlds. The notion of dialogic space has generative possibilities in so far as it supports relationship building and change. CHAT will argue that it allows the space for the expansion of the subjects’ action possibilities to respond in increasingly enriched ways in pursuit of meaningful objects in activity.

We further argue that collaborative object construction within the overlapping dialogic spaces of the three activity systems allow for the notion of doing reasonable hope that can assist trained professionals to embrace cognitive and communication skills which are necessary for innovative and creative problem-solving within the complex field of learning and development. The meanings and possible effects of hope, with its potential tensions, motivated Weingarten (2007) to modify ‘hope’ to ‘reasonable hope’. Weingarten describes reasonable hope as aiming to make sense of what exists in [the present], in the belief that this will prepare [people] to meet what lies ahead. The notion of ‘doing of hope’, rather than ‘hope’ as something that a person possesses, implies a verb, an action. For hope to become an action emphasis is placed on its relatedness and goal-directedness. It sees the future as open, uncertain and influenceable which means that reasonable hope
accommodates doubt, contradictions and even despair. This resonates with Engeström’s emphasis on contradictions in activity systems that can possibly trigger the potential for deliberate collective and sustainable learning and development within safe dialogic spaces. We suggest that our conceptual framework for collaborative learning possesses the potential to address puzzling challenges and create possibilities for hope.
The study reported on in this paper was designed to explore affordances and constraints to teacher learning as workplace learning in three historically disadvantaged primary schools in the Western Cape Province of South Africa during a time of change as initiated by the Index for Inclusion as tool for the implementation of inclusive education. The study investigated features on the macro-social and -educational level that impact on teacher learning in the workplace, as well as features on the institutional-community plane as the pivotal plane of analysis for this study. Current research in inclusive education promotes continued and sustained school-based learning as the best possible answer to foster inclusive schools. The reality is, however, that the conditions in which teachers work do not always promote their learning. Schools provide affording or constraining learning environments which may enhance or diminish teachers’ space and energy to learn, their sense of identity, efficacy and commitment to teach students with diverse learning abilities well.

One of the more prominent findings of the study underscored the important role of school leadership with regard to collaborative teacher learning for inclusion. The research question that informs this paper reads as follows: What is the influence of school leadership on collective learning processes for change as a result of the introduction of a tool, the Index for Inclusion, for developing schools as inclusive learning communities?

The theoretical framework of cultural-historical activity theory (CHAT) provided a broad platform from which to engage with the study. In particular, the work of Engeström, as a contemporary contributor in the field of CHAT, informed this study. Inclusive education is a highly visible yet contentious notion in contemporary education reform, both internationally and locally. The mainstream school is indicated as the first site of placement for all students and thus becomes the site for transformation to accommodate diverse learning needs. Since the election of the new democratic government in South Africa in 1994, the new constitution has fore-grounded the principles of democracy, Inclusion, equity, non-discrimination and a respect for the rights of all.

Education White Paper 6: Special Needs Education – Building an inclusive education and training system was released in July 2001 and outlines what an inclusive education and training system is and how it should be established in South Africa. The implementation of inclusive education however remains a considerable challenge. Finding a suitable tool for the development of inclusive schools in South Africa has been difficult. In the Index for Inclusion the development of inclusive schools is not presented as an additional change initiative but as a way of improving schools according to inclusive values. Teacher learning in this inquiry was directed at changing the cultures,
policies and practices in the school and classroom with the outcome of addressing the diverse learning abilities of their student body more effectively.

The collaborative nature of an inclusive school culture has clear implications for the nature of leadership and processes of decision-making. Leadership needs to become more participatory and inclusive. For the purposes of this article I fore-ground the importance of distributed leadership and view teacher leadership as integral to a distributed approach to leadership. During the era of apartheid education in South Africa, headship, implying position, status and authority, dominated a view of leadership. Since 1994 there has been some attempt at broadening the basis for decision-making in schools and changing the culture of leadership and of the school itself. At present many principals are however still carrying on much as before. Principals often adhere to autocratic leadership styles, despite limited managerial skills which often lead to conflict in schools and can result in a total collapse of management. Distributed leadership and teacher leadership can be presented as a means to restore the self-worth and professionalism of teachers.

The study was designed as a critical ethnographic study and a qualitative methodology was employed. Data was generated and collected through individual and focus group interviews, open-ended questionnaires and group discussions. The study allowed for a critical in-depth analysis of affordances and constraints to teacher learning in the workplace by making use of an abductive process of data analysis and presentation. CHAT understands human actions in their immediate geographical, socio-economic, historical and cultural contexts. The schools were geographically close with shared cultural-historical and social narrative backdrops, and stories of school transformation bearing common features; but teacher learning unfolded differently across the three activity systems. All three schools were in so-called coloured communities with the principals and staff of mixed origin. During apartheid the coloured group had membership criteria and social status imposed on them through legal structures which resulted in the creation and hardening of racial and ethnic boundaries. The coloured group was declared neither black nor white providing them with a non-status and was thus marginalised into an intermediate status. The three research schools were historically disadvantaged by the previous apartheid dispensation in South Africa. The fragile social fabric of communities was exacerbated by enduring poverty and a range of social ills. Teachers have to deal with harsh social conditions and schools in these communities are often depicted as failing their students. The three school principals’ initial career stories revealed striking similarities. All three were in their fifties and initially chose teaching as career as one of only a few professional career options available for coloured men during the apartheid dispensation. Despite these similarities research findings indicated that there were considerable differences between the leadership styles of the three principals.
Data under-scored that on the institutional level school leadership either expanded or restricted space for teacher learning and leadership. In two of the schools leadership proved to be problematic and space for teacher learning and leadership was restricted. Leadership in these two schools could be juxtaposed with that in the third school where leadership was viewed as an asset. The findings will be presented under the themes rules, division of labour and community as the key components of the Engeström triangle implicated when leadership for inclusion in a school is explored.
106. Analyzing Design Activity from a CHAT Perspective

Judith Brown - Gitte Lindgaard - Robert Biddle

We wish to better understand how designers work together so this paper explores methods to analyze talk- and artefact-mediated interactions from a cultural-historical and more specifically, an activity-theoretic, perspective. This study is a field study of design work and is similar to the work of Herbsleb et al (1995), Sonnenwald (1995), Bodker (1996), Turner et al (2001), d’Astous et al (2004), Lauche (2005), Cohn et al (2009) and du Chatenier et al (2009). Our aim is to suggest analytical methods that ignore neither the artefacts nor the conversation in design work. This paper describes a study of user interface designers at work to illustrate how multiple analytical methods were applied to video data to analyze artefact-mediated activity. Five qualitative methods were used to analyze the video data (Engeström, 1995, Engeström, 2000), but the paper focuses on new methods that were developed by adapting interaction analysis (Jordan and Henderson, 1995) and grounded theory (Strauss and Corbin, 1998).

Our initial research question was "How do design artefacts mediate the work of the people who design the user interfaces for software?" i.e., how do artefacts, like sketches that designers create while they design help them to design? This topic is of growing importance because there are multiple, competing design objectives in any software project, such as usability, learnability, accessibility and so on, which requires a designed user interface, and increasingly, teams of designers.

Design artefact can be any tool, object, environment, rule, or role that is created by designers in their activity. We emphasize either tools or ‘objects of transformation’. We find that our design artefacts can have various forms of material existence, so they can be visual (such as a paper sketch), but they can also be oral and appear in the talk (such as a spoken story) or even experiential (an interactive prototype).

Study Description

This study explored new methods for analyzing artefact-mediated interactions using video data from a study conducted at 8 different development sites. One video of 15 videos collected at these sites is analyzed in full and a summary composite model of the other 15 videos is also presented. The meeting analyzed in full is of a design team comprised of four designers and one developer who are developing a game that was designed to support learning and subsequently released in Canada.

In our video data, a team of designers and one developer was observed interacting through artefacts. In this case markers and whiteboards were used extensively. In a two-hour meeting the designers
completely redesigned a game that had been sketched out by the lead game designer and built as a very rudimentary prototype by the lead developer.

Analytical Methods

To analyze our data we used qualitative methods. We analyzed our data in five different, complementary ways. We used Engeström's activity system's analysis to provide a description of the activity and Engeström's contradiction analysis (Engeström, 1995) to identify key primary forces driving the activity. Contradiction analysis produced an explanation for the evolution of the activity. We focused on the primary contradiction of the group's conflicting vision for the product.

A macro-level interaction analysis was used to identify phases in an activity. To do this we modified interaction analysis to be compatible with CHAT. The analysis identified large chunks of time during which the designers focused on a particular sub-set of design artefacts and engaged in a distinct pattern of talk. Grounded theory was used to name the purpose of each phase, but this also required that we modify grounded theory to be compatible with CHAT. Interaction analysis was reapplied but this time at a micro level and to only a segment of the video and this helped to identify non-conscious purposes of design artefacts.

We found our methods provided complementary insight. Interaction analysis was concrete. Grounded theory helped to focus on the meaning of actions, activity systems analysis on purposeful activity, and contradiction analysis on tensions that drive activity. All the methods allowed us to analyze talk and artefact-mediated interactions simultaneously. We found that working through various analytical lenses helped to produce valuable insights that informed other analyses. Key features of our analytical approach were a careful choice of unit of analysis and conducting complementary analyses selected on the bases of the purpose of the study.

Our study showed that designers organized their activity around design artefacts, and that the overall activity could be subdivided into phases. The analysis highlighted how designers worked through the artefacts and showed how the creation of design artefacts was related to the final outcome, a new sketch of the game's user interface. Through their work with the design artefacts the designers clarified their objective (i.e they resolved the contradiction in their competing visions for the system), identified requirements and constraints, determined the necessary functionality, and developed views of the user interface. But they also used the design artefacts for self-regulating, enhancing their focus, remembering, communicating, and simulating future interactions. Through use of the artefacts, the designers raised concerns, posited ideas, worked out contradictions and ultimately produced a viable design. In these multiple senses the design artefacts served as bridges between the collaborating designers.

Our descriptive data showed that a surprising number of artefacts (both visual and oral) are created
during design activity. A simple statistical analysis showed that much of the designers talk was stories and that these were correlated with the production of design ideas. However, this does not imply that visual artefacts were ‘second rate’, because total artefacts also correlated with the number of ideas and number of words.

We believe the significant contributions of this paper are: the orientation to analysis used in this study where the research context, questions, data, and methods are aligned; the careful selection of unit of analysis; the approach to complementary analyses; and the adaptation of methods from other frameworks, not to mention the insights into designing as an activity.

Acknowledgements

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The aim of this study is to understand how students listen in classroom discussions and clarify the meaning of discussions for students. Many studies have shown that dialogic interaction between individuals during classroom discussions increases students’ understanding of mathematical concepts or reading text (Sawyer, 2006). Previous research has demonstrated that learner-centered or student-led discussions were effective, especially compared to traditional methods that are based solely on teacher explanations and the transfer of knowledge (e.g. Alexander, 2008; Michaels et al., 2008). These studies have identified that traditional teacher-led discourses represented by an IRE/IRF sequence (Mehan, 1979; Wells, 1999; Cazden, 2001) are monologic, and regarded as ‘authentic discourse’ (Bakhtin, 1981). On the other hand, classroom discussions where students talk with each other and teachers encourage and support their participation in the discussion have been identified as ‘dialogic’ or ‘internally persuasive discourse’ (Maclean, 1994; Haworth, 1999; Skidmore, 2000; Skidmore et al., 2003).

However, in recent years, some researchers have argued that the reflection on such a dichotomic as ‘authentic’ or ‘internally persuasive’ perspective on the classroom discourses (Wells, 1993; Matusov, 2007; Lyle, 2008). Scott et al. (2006) showed that teachers sometimes changed the tasks within a lesson to meet the learning objectives and were flexible in adjusting the discourse between dialogic and authentic forms. They argued that both forms of discourse are important “not in terms of a dichotomy, but as a tensioned and dialectic dimension such that one form of discourse assists the other in supporting meaningful learning.” Furthermore, according to Bakhtin, words are “productions through interactions between the speaker and the hearer,” (Bakhtin, 1986) and it is important to clarify whether certain discourses have the authenticity for some persons or not (Kamberelis, 2001; Freedman & Ball, 2004). If observers identify some discourses as ‘authentic’ or ‘internally persuasive,’ it may not be the same for the students who are listening, yet not speaking. Previous research has not analyzed and identified the characteristics, meanings, or functions of classroom discourses from the listener’s perspective. It is necessary to judge the meanings of discourses for students based on how they listen to others and receive that interaction. Therefore, this stance will help understand students’ participation to the discussion more deeply and get more specific indications of teachers’ supports. Based on the above research question, fifth-grade social study lessons in two elementary school
classrooms were observed. In these classes, both teachers valued students-led discussion and listening to others. In addition, immediate recall tasks were performed to identify what the students remembered from the discussions. Lastly, the content of the recall (they reflected on what was listened) and the style of recall (how they listened) were analyzed.

The analysis of classroom discourses and student recollections showed that in situations where an IRE sequence (revealed as the authentic or monologic discourse) predominated, students did not always recall the speech verbatim, indicating passive listening. Some students recalled others’ utterances by rephrasing in their own words, or integrating some utterances into one sentence. These recalls seemed to indicate the active listening with reasoning what others said in their own words or capturing the flow of discussions. Furthermore, this suggested that, for these students, the interaction constructed by the IRE sequence appeared to be an ‘internally persuasive discourse’. On the other hand, in situations where the interactions began with student questions and were mainly led by students, some students actively recalled the information in their own words, while other students recalled the words verbatim. For the latter group, student-centered interaction led to ‘authenticity’ and utterances were recalled passively without rephrasing them in listeners’ own words. Thus, it was suggested that the meaning of the discourse was not unambiguous and was understood differently among the students.

As the background of above differences, two teachers referred to students’ style of learning or prior knowledge. Furthermore, because one students recalled in the different styles in different situations, it was suggested that whether the opportunities for students to share the topic or contents, and question in discussions adequately were developed was also important for listening actively. In this regard, over 60% of active recollection, such as rephrasing others’ utterances in students’ own words or integrating some utterances into one sentence, were about students’ utterances that revoiced (O’Connor & Michaels, 1996; Forman & Ansell, 2002) by teachers in both classrooms. This indicates that teacher revoicings support student listening, not only by giving them the extra opportunity to share words, but also by animating the active listening as ‘internally persuasive’ semi-student’s, semi-teacher’s words. However, in one of the two classrooms, the teacher often revoiced the students’ speech by connecting it to other words or to the main subject of the lesson. In this classroom, many students also recalled revoiced students’ utterances passively. In this type of revoicing, teacher’s ‘voice,’ such as teaching agenda or contents’ interpretation, may be reflected more strongly than simple rephrasing or summarizing, clarifying students’ utterances. Thus, while the revoicing developed student-led discussion and supported active listening, by reflecting the teacher’s ‘voice’ strongly the revoicing took on ‘authenticity’ for the students and interfered with student’s listening and active participation in the classroom discussion.
110. Is Simulated Practice Effective in the Transition from School to Work?

Kayo Matsushita - Tomoko Hirayama

1 Problem

Our concern is to consider the effectiveness of simulated practice in the transition from school to work. Focusing on what we call “Objective Structured Clinical Examination-Reflection (OSCE-R)” method, which is a kind of authentic performance assessment in physical therapy associated with students’ collaborative reflection, we investigated its impact on student learning and the transformation of organization.

For the past two decades, one of the most influential theories of learning in practice has been that of LPP (Legitimate Peripheral Participation) proposed by Lave & Wenger (1991). This theory does not, however, fit physical therapy very neatly. Right from the beginning, a physical therapist (PT) who has just graduated from school takes charge of her own patients in the workplace, which is the case even in the clinical clerkship. She does not have sufficient opportunities to be trained while engaged in peripheral work in the workplace as, for example, a tailor’s apprentice would do.

Nowadays, we cannot simply divide professional training into theory learning at school and learning in practice in the workplace. Especially in medical care education, the requirements on clerkship students, including professional attitudes, ethics and risk management, have been growing due to expectations of better treatment and accountability. Thus, simulation of clinical practice at school has been assuming greater importance. This is the background against which we developed OSCE-R, which is a performance assessment to be conducted in a simulated situation.

However, it is also true that there is a great gap between school learning and learning in practice. Brown, Collins & Duguid (1989) stated that when authentic activities are transferred to the classroom, their context is inevitably transmuted and they tend to become “ersatz” activities. Simulation is always exposed to such insecurity. Then, can we say the OSCE-R is an effective simulation? If so, how and why?

This study examines what changes the OSCE-R has brought about in students and, in turn, in the faculty and the organization.

2 Method

2.1 What is OSCE-R?

OSCE is an assessment tool originally developed by Harden (1975) to assess medical students’ basic clinical abilities. In Japan OSCE has been used as summative evaluation to judge whether the student can be sent for clinical clerkship in medical and dental education.

Based on the OSCE, we developed a quite new method named OSCE-R, OSCE-Reflection method.
It is a combination of OSCE and group reflection, and is composed of a series of “OSCE (1st) – Reflection – Learning session (1 week) – OSCE (2nd) – Reflection.” First, we devised a version of OSCE for physical therapy, in which each student conducts medical interviews and physical examination with a simulated patient in a simulated setting, while two teachers assess her performance. Then the students, in a group of four, reflect their own performances via video, comparing them with the model performance of a teacher and upper grade students, and considering what their insufficiencies are and how to tackle them. During the learning session, we observed that the students spontaneously repeated simulated practices while playing roles of PT, patient, and assessor by turns.

2.2 Data Collection
We launched this project in 2007 and now sophomores and juniors at our department take the OSCE-R. In analyzing its impact on student learning in this study, we used data mainly from 96 juniors (as of 2007), including OSCE scores, video of OSCE performances, descriptions of group reflection, and interviews done after OSCE-R and clinical clerkship. In addition to them, we used episodic data that show the impact on faculty and the organization.

3 Results and Discussion
Impact on Student Learning
The OSCE-R resulted in much more noticeable changes in students, faculty and the organization than expected. First, the scores of OSCE rose from 8.9 points (1st) to 20.0 points (2nd) out of 25 (n=96), which showed the progress in skills in physical therapy.

Furthermore, it brought about changes in students at a deeper level. They became aware of being a PT from a patient’s viewpoint, and regarded it necessary to connect what they learned separately at each course together in a practice. We can say these changes demonstrated “integration of knowing, acting, and being” (Dall’Alba & Barncle, 2007). The OSCE-R encouraged the students to reconsider how they should be as a PT, which lead to the reconstruction of how they should know and act.

3.2 Impact on Faculty and Organizational Learning
The marked changes in students motivated the faculty members to plan and implement further educational improvements. As a result, collaborative faculty learning activities were generated one after another as follows: Building inquiry groups to find and approach educational problems; reorganizing curriculum and content; and placing clinical teachers who promote cooperation between the university and hospitals.

3.3 Meaning of Simulated Practice
In the 1st OSCE, most students cannot perform successfully. But, upon experiencing shared
failures, they can continue striving for better performances experimentally and collaboratively. Workplaces don’t allow them these opportunities even during clinical clerkship. As for the faculty, the OSCE-R makes it easier for them to identify organizational educational problems because the same performance tasks are given to all the students in the same grade and the teachers assess their performances jointly.

However, simulation is just simulation. Students in clinical clerkship come to realize that real practice is much more complicated since a PT should respond to each patient’s needs flexibly. Thus we can say, paradoxically, that the meaning of OSCE-R is found in preparing students for becoming aware of the constraints of simulation and going beyond them in real practice.

References
Mass media play a significant role in everyday life, affecting family routines, social interactions, cultural norms and leisure activities—all of which impact contemporary childhood. In early childhood, television is particularly significant: it is a baby's first experience of mass media and it is one of the most enduring and consistent experiences of early childhood. Despite this, and despite concerns that are as old as television transmission itself, little attention has been paid to the effects of television exposure on babies and toddlers.

Babies and toddlers have been virtually ignored as an audience of television: it's a though we assume that this group is somehow immune to the impact and influences of television. Babies in particular have until very recently, been an invisible audience. But television is an integral part of the environment in which early development occurs, and 'children in the twenty-first century typically develop in front of a screen' (Calvert and Wilson, 2008). The interconnection between early development and television begins at the start of life, with research showing that, at least in Australia, television is used as a 'baby-sitter' even from earliest infancy (Edgar and Edgar, 2009).

Cognitive, social-emotional and physical development is occurring while babies and toddlers experience both background and foreground exposure to television. Despite this, attention has only recently been given to the impact of television on developmental outcomes. This is surprising, given what we now all understand about early brain development and the significance of early experiences and relationships in shaping its architecture.

Recent Australian data (Australian Communications and Media Authority, 2007) show that very young children typically spend more time watching television than in any other single waking activity—and the 0 to 4 year old group watches more television than any other age group. A typical Australian 4 month old baby watches an average 44 minutes of television per day.

Time is only one dimension of the concerns raised by recent research into the effects of exposure to television in very early childhood. Research findings now identify wide-ranging, negative developmental and health effects. Specifically these relate to: obesity, language development, play, sleep, self-regulation, social-emotional and general health and well-being.

While there is evidence that children aged three and older may gain from exposure to educational media, this is not the case for babies and toddlers (Kirkorian et al, 2008). No developmental gains or positive health outcomes are associated with exposure to television for this younger age group and the negative outcomes increase as television exposure increases.
The findings are consistent with the American Academy of Pediatrics recommendation of 'no screen time' before the age of two, and the Australian College of Paediatrics identification of the media as an important issue in relation to child health, well-being and development.

Early childhood is also a period during which identity and sense of self is being navigated and negotiated through agents of socialisation that include family, preschool, and the media. The family has long been recognised as the primary agent of socialisation, but television's influence may compete with the values, cultural mores and collective identity of the family. Television is a particularly powerful agent of socialisation through which children simultaneously learn and construct their own sense of self - their sense of who they are, how they are positioned in the world, and what that world is like. How the world in general, and our society in particular, is represented actually matters - especially when young children may have limited access to alternative representation. So content of television matters profoundly. Yet the Australian data show the even very young children watch programs that are not specifically intended for children, and increasingly, they watch on their own - without an older person to mediate and moderate television's messages and representations.

These research findings have clear policy and practice implications for all early childhood care and education settings and for the training of early childhood educators. The two most important implications are: 1. that the early period of infancy and toddlerhood needs to be regarded as a distinct group, with specific developmental needs; 2. television needs to be unequivocally recognised by early childhood educators as a health and developmental issue.
Early introduction to algebraic thinking in technological environments: the role of interaction

Cristianne Maria Butto Zarzar

Theoretical and empirical studies have shown that the transition from arithmetic to algebra is an important step needed to access more complex ideas in mathematics, and that a series of obstacles have to be overcome in order to master the notion of symbolic algebra. Some results suggest that it may be possible to overcome or avoid these obstacles depending on the way algebraic thinking is conceived and the way that early algebra is introduced in early stages. It is also believed that if the routes of access are familiar to students – such as proportional reasoning in primary school – and are specifically situated within the curriculum – for example within the 5th and 6th years of primary school – students are able to access early algebraic thinking.

The research is situated at the end of the curriculum of primary school, in the layer of pre-algebraic thinking where the students have not yet been introduced to algebraic syntax. In the present study, algebraic thinking is approached from the point of view of proportional reasoning and generalization processes. The main purpose is to develop an alternative route towards building a teaching model that allows students to transit from additive to algebraic thinking, incorporating sources of meaning such as proportional reasoning from the curriculum. Thus, algebraic ideas are introduced along two main lines:

1.- Pre-symbolic – using the idea of proportional variation and symbolic – where the general rule has to be found and expressed by means of a series of problems in a didactical sequence.

2.- Starting from proportional reasoning, considered a part of the multiplicative field, we develop further this mathematical idea towards proportional variation, variable as a functional relationship and general number by means of generalization processes.

Aims of the study

- To study early algebraic thinking with students of the last years of primary school (5th and 6th years) in technological environments of learning.

- To design and implement sequences of activities with digital technologies, exploring the two aforementioned routes of access to algebraic thinking: proportional reasoning and generalization processes.

- Observe different kinds of social interaction, its effects and relations with mathematical contents.

The technological environments of learning

As stated above, for our project, two technological environments have been chosen: Logo and
eXpresser. Many studies have investigated the potential of Logo for mathematical learning, including algebra learning (e.g. Hoyles and Sutherland, 1987, 1989; Ursini, 1993), including one of our own studies (Butto, 2005). In that latter study, the potential of Logo to facilitate the understanding of, specifically, proportional reasoning in 11-14 year-old children working collaboratively in pairs, was investigated.

The eXpresser microworld is a free java-based software of the MiGen project. This software “seeks to provide students with a model for generalisation that could be used as a precursor to introducing algebra” (Geraniou et al. 2009). eXpresser provides several approaches that allow students to construct their own mathematical models: in eXpresser, students can build figural patterns of square coloured tiles and express the rules underlying them.

The design of the research and teaching sequence

That is, we also use the Vygotskian idea of Zone of Proximal Development (ZPD) – which Vygotsky (1978) defines as the distance between the level of current child’s development and the higher level of potential development – in that the didactic sequence is intended to help students in their development through their ZPD. It is thus important to determine the level of potential development and the level of current development. For that we explore and analyse the children’s zone of current development and the evolution toward the first algebraic ideas through the application of pre- and post- questionnaire and ad-hoc interviews. These questionnaires and interviews give us insights into children’s initial and later notions, and ZPDs, about proportional reasoning and generalization processes.

Methodology

The study is being carried out with 20 students of the 5th and 6th years of elementary school, 10-11 years old. Students in this age-group tend to privilege mathematics contents belonging to the field of additive structures.

As stated above, a pre-questionnaire and a post-questionnaire were designed to explore children’s type of numerical thinking; specifically to explore proportional thinking and generalization processes.

During the working sessions, activities are carried out with paper-and-pencil, the in a later stage, children undertake activities with Logo and eXpresser.

After the working sessions, students are given a post-questionnaire, then the children are interviewed in order to verify the evolution of algebraic ideas.

Final remarks

We verified that the interaction of the interviewer played a main role, because by means of the interview, the students were able to explicit the way they solve the problem as well as
reconceptualise their knowledge. In some cases, help of the interviewer permitted that children could restructure their thinking by a simple solicitude of justification. In other cases, several levels of help were needed, depending on the real or actual evolutive level the children had. This real evolutive level (ZDA) could certainly be potentiated within appropriate technological environments for algebraic thinking, but also with a well structured design of activities from the didactical and psychological point of view.

References
118. Solidaric learning relations - education as psycho-social rehabilitation

John Bertelsen

The approach.

Certain activist features in the history of 'the Social Model' and the tradition of critical pedagogy share a concrete utopia. Most importantly: a perspective of cooperation, the fight for the right to make choices and avoid isolation.

As significant categories of 'Bildung' (formation), these differ in crucial ways from the pedagogy of the dominant educational systems. In these we encounter, still more intensively, the opposite: cooperation as a basic learning principle is being replaced by idea of personal responsibility for learning and a liberalistic understanding of autonomy.

In this framework, the systematic demands of learning institutions are more important than development of independende. Seen together, these aspects correspond to an educational logic of alone-ness, which in turn leads to self-controlled isolation.

Educational thinking focused on decoding and deliverance of special competencies, and it is linked to the labour market. The latter continues to take place, without any concern for the real psychology of labour, and therefore it stands out as an almost perverted concept.

In the following we focus on the relations of learning and an understanding of education that stands by its heritage from the tradition i critical pedagogy and cultural historical psychology.

The concept of "relation" is being used widely and uncritically: as an equal and positive social form with dominance of superficiality. We aim at here to extract element that support learning relations and contribute to a user-led understanding of education. Relations do not come from out of the blue. Both the professionals and the user bring something significant to these relations. What the user bring is mostly egnored. The professionals, on the other hand, do not take into accountt that their own professional contributions could be excluding (?) Our aim is building a learning programme for citizens with severe learning difficulties and other important limitation . This includes working within a practically non-existing tradition of education.

Our understanding of learning: if we see learning ad a socially embedded concept, and increased number of significant common goals become clear. The comminication gains a direction and purpose, and ways of solving problems an reflexivvity point in the same direction despite important background differencies between users and the counsellors.

The development of competencies and educational programme.

The project had two part. The first part: qualification of the staff with regards to theories and methods of learning was carried out as a two-year educational programme from 2003 to 2005 ,
supported by the European Social Fund. The second ongoing part is an education programme for the
users (functional or vocational educations)
These educational programmes are now an established part of the individually planned and partly
user-led courses. They raise demands to the users and their counsellors with regard to changing
social psychiatric practice towards psycho-social rehabilitation. This requires a particular
elucidation concerning curricular thinking and continuing work with the relations of learning. So far we have completed 160 education programmes. The current activities correspond about 35 individual programmes a year. Further development of the programme has been planned for the years to come.

The participants in the education programmes.
The participants are very different people, but they share serious complex problems, including severe learning difficulties. Among the causes are psychiatric conditions and brain damages, often combined with social problems. With the risk of generalising, it can be said that many participants have developed a sceptical attitude towards learning and education. Many have suffered defeats. The traces of this problem somewhat lose significance though, as the education programmes carry on and they experience success. People are being graded, sorted out and separated, and mechanisms of exclusion are growing stronger.

In the following we focus on the relations of learning and an understanding of education that stands by its heritage from the tradition of critical pedagogy. The concept of "relation" is being used widely and often uncritically: as an equal and positive social form with dominance of superficiality.

We aim at here to extract elements that support learning relations and contribute to a user-led understanding of education. Relations do not come from out of the blue. Both the professionals and the users bring something significant to these relations.
A multidisciplinary approach of activity development: a perspective in Clinic of Activity

Laure Kloetzer - Pascal Simonet – Edwige Quillerou

The Clinic of Activity is a psychological perspective inspired by the works of L. Vygotski and the tradition of Cultural Historical Activity Theory. It is currently developed at CNAM in Paris, France. For us, development is both the object of our research and its method: we try to provoke developmental events in order to study development mechanisms. We focus on development at the workplace: development of the working subjects, work settings, work tools, work relations, work objects... i.e., work activity. On its empirical side, the Clinic of Activity therefore aims at supporting the action of the professionals and practitioners in analysing and transforming their own work activity by creating methodological frameworks like « Cross Self Confrontations » or « Instructions to the Double ». These dialogical frameworks enable a co-analysis of the everyday work activity in a developmental perspective through various (re)mediations. For example in Cross Self Confrontations we use artifacts, among them and most importantly, video records of selected sequences of activity. So doing we expect to create conditions for a professional dialogue where professionals come to see their activity differently and gain greater power to act in and on their work situation.

In some of our interventions, we tried to take advantage of the complexity of real work activities and of the subsequent multidisciplinary collaboration context in work interventions to nurture these developmental frameworks. Studying work activity through different lenses results in describing it in fairly different ways. We’ll show in this paper how these diverse accounts of the very same object can be usefully brought into our methodological frameworks and with which effects. We’ll report three cases where data on the activity forged outside the psychology of activity proved very useful in the development of the thinking on the activity and of the practical activity itself:

1. one collaboration with ergonomics where detailed measures of the activity were integrated in professional dialogues to prepare the Cross Self Confrontations. This intervention is conducted with production units workers, managers and occupational safety specialists in the car industry;
2. one collaboration with biomechanics where measures of the muscular activity provided data to rethink the efficient professional gestures in Cemeteries of a big city. This intervention is conducted with gravediggers, their management, health doctors and officials from the city;
3. one collaboration with economics and sociology where we try to turn sociological observations and maps into psychological tools for the workers themselves in the development of their activity using Instructions to the Double. This intervention is conducted in the railway industry.
The detailed analysis of three micro-events from these various intervention contexts will allow us to show how the professionals themselves were able to use the scientific data provided in the methodological framework in place to deepen their own analysis of their activity and broaden their power to act. We will in particular analyze the transformations through which these data went in their argumentative, instrumental use by the researchers, workers and managers.

We will analyze the conditions under which this multidisciplinary dialogue can result in effective transformations in the workplace through greater power to act of the workers in everyday situations, i.e. the conditions which enable scientific data on the activity from various disciplines to become useful artefacts in the development of their work activity by the professionals themselves.

As a conclusion we will discuss the following questions triggered by multidisciplinary collaboration:

- How should intervention with different perspectives be prepared?

At which conditions can divergences between the scientific approaches constitute resources for action with and for the professionals?

- How does multidisciplinary collaboration impact our methods in the Clinic of Activity? Which changes did you do in our observation methods and dialogical frameworks to adapt to multidisciplinary collaboration?
125. Communication beyond words: Merging Activity Theory and semiotic analysis to understand the meaning-making process of a group of young adults with Down syndrome in Singapore

Esther Joosa

This presentation features the process of communication and meaning-making of a group of young adults with Down syndrome in Singapore during their weekly art lessons. It provides insight into how the visual arts provide opportunities and mediation to create and share meaning. The study is based on image-based semiotic research (Wright, 2010) merged with Activity Theory (Engeström, 1987, 1999) and is aimed to provide an avenue to investigate the experiences of those who often have been excluded from social research on individual representation. The study comes in a time with a growing sensitivity to the cultural nature of human development, the diversity in learning and development and the acknowledgment of the human mind as being a social mind (Valsiner & Van der Veer, 2000; Van Oers, Wardekker, Elbers, & Van der Veer, 2008). Based on my work as teacher cum researcher, it builds on the ideological belief that people irrespective of background or ability are meaning-makers in their own right and need opportunities for expression. The goal of this presentation is to draw attention to merging research methods of Activity Theory and semiotic analysis to assist us in understanding meaning-making experiences of individuals with Down syndrome. Hence, the purpose of this presentation is to explore individuals’ characteristics and their social and cultural contexts, with the goal to re-position minorities and to re-examine frameworks of research design, assessment and education in the process. Congruently, the discussion will focus how new knowledge allows educators to provide individuals with lower levels of literacy competence new and meaningful opportunities within multi-modal domains of communication.

Literature review

Over the last few decades there has been much change for individuals with a cognitive disability, yet education and research in the Western world show minimal attention towards representation of individuals with a cognitive disability. Indeed, the identity of individuals with Down syndrome is still clouded by lack of voice and there is little documentation on what they communicate about and even lesser on how they make art (Taylor, 2005). No doubt, there are biological causes that contribute to this lack of communication, however this presentation takes on the position that not everything people do needs to be seen within the scope of their disability (Joosa, 2008, 2010).

The theme of this conference paves the way to address issues of change and to move away from
existing research traditions or societal prejudices such as stereotypical, or historical, beliefs on limitations in functioning. Many neo-Vygotskian scholars bring forward exciting new insights and interpretations of the social and dynamic nature of cognition and communication. Their work provides a variety of perspectives, as well as new and exciting opportunities to investigate the individual nature of human development and functioning (Daniels, Cole, & Wertsch, 2007; Lave & Wenger, 2005; Rogoff & Lave, 1984; Rogoff, 2003; Wenger, 1998; Wertsch, Del Rio, & Alvarez, 1995). Socio-cultural perspectives consider communication as an innately social, symbolic and multi-directional practice, accomplished through the mediation by resources, the social environment and individual objectives (Gee, 2008). This brings about the notion that human communicative functioning is embedded in social relationships and is difficult to study as context-free information processing (Lewis, Enciso, & Birr Moje, 2007). Traditional forms of knowledge transmission are gradually being replaced by an understanding of the social and semiotic nature of communication. For instance, within different contexts people constantly create and re-create symbols that allow them to connect to one-another and such changed perspectives have induced a shift in foci towards understanding the individual experience as a social and semiotic practice (Gee 2008; New London Group, 1996).

**Methodology**

A combined framework of activity Theory and semiotic analysis provides understanding how meaning is shaped and communicated mediated by tools, resources, community and environment. Semiotic analysis is an emergent process shaped by questions about the creation, development and use of semiotic resources (Van Leeuwen, 2005; Wright, 2010). Semiotic analysis offers unlimited potential to explore the symbolic nature of meaning-making, although there are controversies about interpretation and application (Danesi, 2004, 2007; Johansen & Larsen, 2002; Leeds-Hurwitz, 1995). Activity Theory in this study explores the enmeshed nature of social action and includes various focal points, such as rules, division of labour and community as well as peers, motivation and object (Daniels & Gutiérrez, 2009; Daniels, Edwards, Engeström, Gallagher, & Ludvigsen, 2010; Engeström & Davidson 1997). Video data and visual artefacts are used to bring forward various influences and emerging patterns in their participation, themes, choices and responses.

**Findings**

The findings foreground how Activity Theory and semiotic analysis and allow insights into the social and semiotic nature of the participants’ communication. For example, the artworks show themes motivated by emotions such as love and sorrow, friendships. The findings articulate how visual art, often in combination with other modalities, complement the meaning-making and communication of the participants and show the intricacies of the interactions and influences from
peers and community, but also popular culture such as movie stars and popular music (Flood, Heath & Lapp, 1997; Haas Dyson, 2008). The creation of semiotic resources shows the interplay between the embodied, the narrative and the graphic (Wright, 2010) and communicative details such as gesture, position and other features (Deacon, Pickering, Golding & Murdock, 2007; Flewitt, 2006).

Discussion

Visual art, with its unique sign and symbol system, provides a powerful medium for insight into human experience. It shows the participants as meaning-makers in their own right and the value to merge complementary bodies of theoretical knowledge. The combination of Activity Theory and semiotic analysis provide new opportunities to gain insight into the complementary nature of the social and the semiotic in the process of participation and representation. It shows how over time these young adults develop their unique form of representation. Visual technologies provide new and exciting opportunities to different forms of communication, including facial gestures, position and dramatizations. This leads to further explore the social and semiotic nature of communication and alternative modes of assessment to provide new insights communicative abilities.
127. Word definitions and word meanings in second language teaching: Creating a common ground

Asta Cekaite

Theoretical background and aims

Learning the vocabulary of a language is major part of language learning. However, so far studies on second language vocabulary learning have tended to focus on the “product of learning” (cf. Nguyen & Kellog, 2010), rather than on situated, processual aspects of vocabulary teaching and learning practices (i.e., instruction and meaning negotiation that takes place on the micro level of social interaction). While it has been suggested that vocabulary explanations constitute a significant aspect of linguistic input (Oller, 2005), there is but little work on how lexical items are explained in second language classrooms and what such vocabulary explanations, defined as talk that provides information about meanings, social uses, and grammatical aspects of words and expressions, entails (but see Chaudron, 1982; Lazaraton, 2004). Attention to the processual, situated character of SLA is also motivated by the realization that language acquisition is a socially embedded process (Lantolf & Thorne, 2006). It is intimately bound up with socialization to use language, the goal of language acquisition being expressed in terms of acquisition of communicative competence and appropriate cultural performance (Ochs, 2002; Cekaite, 2007).

Within the socioculturally inspired language socialization paradigm, the present study examines the interactional organization of vocabulary elaboration practices during Swedish as a second language lessons (at primary school level). While earlier research has mainly considered semantic (or non-verbal) features of vocabulary-related teacher-talk (Chaudron, 1982; Lazaraton 2004), the present study broadens the empirical focus to include teacher-student interactions. In addition to detailing the recurrent semantic characteristics of vocabulary-related episodes, the present study will explore the processual aspects of vocabulary instruction, and demonstrate how lexical meanings are negotiated and appropriated in situated classroom interactions. The study will show how vocabulary explanations serve as a locus for socialization into what can be seen as appropriate language use, and cultural membership in the target language community.

Methodology

Data includes 30 hours of video recordings of Swedish as a second language lessons, attended by 10-12 year old children with immigrant backgrounds (Iraq, Syria, Thailand, Lebanon, and Somalia).
(collected over the course of one term). The present study is based on transcribed recordings of 6 reading comprehension lessons. A set of vocabulary-related practices: lexical definitions, verbal and nonverbal exemplifications, and narratives constitutes the focus of analysis. The methods adopted combine a microanalytic (CA-inspired) approach to everyday L2 interactions (i.e. sequential analysis of talk) with language socialization perspective (Ochs, 2002) that focuses on language learning as a social and situated phenomenon, involving the appropriation of indexical resources for enactment of specific communicative roles, stances and identities.

Findings
Analyses revealed the multilayered, dialogic character of vocabulary practices. The teachers’ vocabulary-elaborations were recurrently designed as a three part discursive structure, including (1) an (explicit) general definition of the lexical meaning; (2) exemplification; (3) recycling of the general definition of the unfamiliar item.

General definitions were recurrently supplemented with exemplifications such as descriptions, illustrations, and explanations of situational functions, contexts or implications of the unfamiliar item. To promote the students’ understanding of the linguistic form, the teachers appealed to learners’ experiences, participants’ shared interactional and referential history, as well as encyclopaedic world knowledge. Care was taken to imbue the knowledge of language with the extralinguistic knowledge of the world: the teachers elaborated word meanings by offering short narratives (or comments), that demonstrated the uses of the word in the interactive field of the prospective users (i.e. students). For instance, by locating the current participants (students and teachers) in narrative events, the teachers casted the students in a kind of social typifications that those words were evoking in a wider sociocultural context. Such exemplifications offered the children the teachers’ perspectives concerning the implicit cultural values and stances connected to the new words, and were shaped as something to be agreed and aligned with.

When providing vocabulary definitions and explanations, the teachers actively solicited the students’ uptake, monitoring both the students’ understanding of the novel lexical meanings and the stances and values adopted vis-à-vis phenomena described. The students’ responses and uptake demonstrate that rather than simply internalizing teachers’ norms and values, they engaged in a reciprocal process, actively negotiating, disagreeing and even resisting teachers’ narrative exemplifications.

Theoretical and educational contributions
By focusing on the interactional architecture of vocabulary explorations, this study has been able to
identify and explicate social-interactional issues that so far have received little attention in studies on L2 vocabulary teaching and learning. As demonstrated, vocabulary elaboration practices were not simply neutral semantically oriented activities, rather, semantics were accomplished interactively. Generic, vocabulary entry-like definitions did not completely disambiguated the meaning potentials. Instead, the sense of particulars that specified the meaning of the word emerged from the experientially based locally relevant contextualizations. Vocabulary-elaboration practices mediated not only linguistic forms, but also culturally appropriate meanings and values, ways of thinking and behaving in new communities of practice, and provided affordances for the shaping of the lifeworlds and identities of the second language learners. It is thus argued that second language acquisition models need to incorporate the situated, interactionally-anchored real-world experiences of learners. On practice level, the findings can be used to improve the design of the activities available for vocabulary instruction.

References
Research in mathematics education views curriculum use as ‘participation with the text’ indicating the dynamic interrelationship between teachers and curriculum materials. Teachers, it is said, not only develop insights into the use of curriculum materials, but also how teachers learn from their use. More recently the term ‘documentation work’ was introduced indicating teachers’ work with materials, looking for resources, selecting/designing mathematical tasks, managing artifacts, etc. This paved the way for a ‘new’ and creative thinking about mathematics curriculum material in connection with teacher ‘use’ of those materials. It also provides a new perspective, viewing teachers not as passive users, but as designers of their own resources, and there are interesting and inter-relational dependencies between teachers’ professional knowledge and curriculum design, each influencing each other in the process.

The study built on previous work with teachers, textbooks and other curriculum materials, by the author. Supported by a grant from the NCETM (National Centre for Excellence in the Teaching of Mathematics) the author worked with teachers over a period of nine months in school and at the university department, developing a mathematical task analysis ‘schedule’ and using it in teachers’ daily work (detailed description in the paper). Data collection strategies included focus group interviews, document analysis and re-view of videoed lessons.

In this study the mathematical tasks teachers worked on with a university teacher educator were integral part of their daily work, both in terms of where the materials originated from (e.g. tasks chosen from their departmental resources) as well as their use in their daily instruction. However, it appeared that the focus of developing reflection and thinking with teachers was less afforded by the tasks themselves, but by the tools and processes surrounding the tasks, e.g. analysing the tasks, and providing and developing a tool for analysis. It appeared that the tasks/curriculum materials themselves could be educative or otherwise, as long as teachers had the necessary ‘tools’ (e.g. task analysis tool, knowledge of how to enrich a task) to stimulate their thinking, and in turn (re-)shape the mathematical tasks for their teaching. Thus, it is legitimate to ask what may count as a ‘tool’, and what a tool should afford (e.g. feedback).
Feedback can be conceptualised as ‘information provided by an agent (e.g. teacher, peer, book, parent, self, experience) regarding aspects of one’s ‘performance’ or understanding’. In the case of teachers working with curriculum materials several potential forms of feedback could be identified, but by far the most mentioned by the teachers was the task analysis tool, which appeared to have helped teachers to clarify ideas on the purpose of tasks and what a mathematical task may inherently possess (e.g. ‘aspects of mathematical process’, ‘language demands’, ’symbolism’). Thus, I conceptualise feedback as information not only provided by a person (e.g. the teacher educator, or peer teacher), but by other ‘agents’, such as curriculum materials, or more particularly in this case, a task analysis schedule/tool.

Considering different types of feedback, it appears that the development and use of the task analysis schedule (the ‘tool’) was crucial in teachers’ awareness raising/developing understandings of task characteristics and potential of particular mathematical tasks for teaching, hence in terms of support for teacher learning. It is claimed that this tool was the pivotal point around which most other activities centred, or were linked to, and which was mentioned in all discussions and evaluations. Thinking in terms of internal and external sources for feedback, it can be argued that the ‘tool’ was an external source at the outset, but became also an internal source of feedback. Whilst suggested by the teacher educator for teacher use in ‘skeleton’ format, teachers developed the task analysis tool and made it ‘their own’ according to what they regarded as important characteristics for a mathematical task for their teaching. This process started with reading and discussion of the relevant literature, and subsequently it was amended and then used on their chosen tasks. This in turn triggered ideas for enrichment of tasks, and for comparison of characteristics with National curricular guidelines and with ‘test tasks. At different stages of development and use of the analysis tool, different kinds of feedback resulting from the tool became apparent.

Moreover, it is argued that by participating in the practice of enquiry to analyse/work with mathematical tasks and the task analysis tool, teachers gained access to feedback that stimulated their professional learning and enabled them to become reflective. Particular attention is given here to the role of the tool for enquiry. The tool for task analysis became a tool for enquiry in feedback loops between (1) the two teachers amongst each other, (2) between them and the ‘tool’, and (3) between them and the teacher educator and the ‘tool’. This, in turn, provided support for teacher learning. In this way the level of teacher engagement and learning lifted the ‘tool’ beyond its level of artefact: it became a catalytic knowledge object. The insights gained (through the use of the ‘tool’) triggered communication between teachers, and teachers and teacher educator, and provided
access to a developing depth of perspective which in turn encouraged teachers to explore further. It can be argued that the ‘tool’ has developed catalytic potential, through its intrinsic features, its usefulness in teacher everyday professional lives, and its potential for empowerment in terms of teacher learning.

There is evidence from this study that curriculum materials, more precisely a task analysis ‘tools’, can act as catalyst for teacher learning. As the task analysis ‘tool’ developed, it became a catalytic tool providing feedback (in feedback loops) which in turn helped teachers to develop deeper understandings. In the process it afforded feedback loops and changed its character, from ‘tool’ as artefact to ‘catalytic knowledge object’ at the interface between task design and enactment. Different forms of feedback emerged from the work with the ‘tool’, at four different levels (which are described in the paper). The results provide deeper insights into the processes of teacher learning with the help of analytic tools and the feedback these may afford.
Engeström (1987, 2001, 2008) postulates that contradictions are the igniting impulse of change and development or, as he explicitly indicates, “the driving force of change” (Engeström, 2001, p. 133). Engeström strategically distinguishes contradictions or culturally-afforded tensions from everyday heated debates by indicating that “Contradictions are historically accumulating structural tensions within and between activity systems” (p. 137). Scholars investigating contradictions in the online or classroom contexts have examined the culturally-afforded nature of contradictions within the political, cultural, and sociohistorical contexts in which they are experienced (see Kramsch & Thorne, 2002; Thorne, 2003; Basharina, 2007). Both students and instructors encounter contradictions during the learning and teaching processes from institutionally-imposed curricula, instructional material, implemented state and pedagogical guidelines, students’ learning needs and instructors’ teaching approaches (see Kramsch, 1993). The implementation of technology in the second and foreign language classroom has added new contradictions to the equation, with instructors striving to establish transatlantic and global collaborations among second and foreign language speakers and native speakers in order to help students come into contact with and experience the target language and culture. Thorne (2003) indicates that, in online exchanges, instructors should be well aware of the “Clashing Frames of Expectation – Differing Cultures of Use” (p. 38). Thorne (2003) goes further to explain that “the cultures-of-use of Internet communication tool, their perceived existence and on-going construction as distinctive cultural artifacts, differs interculturally just as communicative genre, pragmatics, and institutional context would be expected to differ interculturally” (p. 38). Basharina (2007) takes this even further indicating that we need to examine not simply the intercultural and intracultural contradictions but also the technological contradictions afforded by these transatlantic exchanges.

Drawing on this notion of culturally-afforded contradictions, the purpose of this project was to examine the contradictions students and instructors encountered as they engaged in transatlantic collaborations using social virtualities, and more precisely Second Life to discuss efforts to implement energy efficient products and practices. The goal of this study then was to address the following questions: (1) What are some of the intercultural contradictions that instructors and students encounter in this process? (2) What are some of the intracultural contradictions that instructors and students experience? (3) What other culturally-afforded contradictions are
encountered in this process? (4) How are these contradictions resolved? (5) How do these contradictions guide students’ learning? Students enrolled in two sections of a 300-level online course in technical and professional communication at a large southwestern metropolitan academic institution and felt comfortable with the Second Life environment were invited to participate in this study. An experienced instructor in Engineering, along with his student, from a Greek-speaking university was also invited to join in the virtual sessions to address students’ questions regarding IBM’s energy efficient practices. The goal was to expand the collaborations among students and faculty in various disciplines and at the same time to help students understand instrumental concepts related not simply to the instructional material but also to their personal lives. Students and instructors “met” on IBM’s Green Data Center on two different occasions to examine research conducted in this area, efforts to produce energy efficient products, and attempts professional organizations, such as IBM, make to adopt energy efficient practices. Preliminary results indicate that students and instructors encountered multiple intracultural and intercultural contradictions during this process. For instance, during a discussion on the energy efficient steps taken at students’ local community and European countries, there was an intercultural clash between the directives issued by the European Union for energy emissions and the measures taken at their local community and academic institution to promote energy efficient practices. Further, the use of the written medium in order to promote a learning environment where the focus was on discussing instrumental issues related to energy efficient practices instead of ESL students paying attention on their pronunciation clashed with native speakers’ expectations for the use of the oral medium. Technological contradictions were also experienced mainly due to the fact that students were not so familiar with this new online learning environment and its tools. Further, the use of an automated concierge at IBM’s premises in this virtual environment formed a clash with students’ and instructors’ attempts to discuss instrumental issues pertaining to energy efficient practices. The concierge invited students to raise questions regarding IBM’s Green Data Center, but was only programmed to address a specific set of questions. Therefore, the presence of an experienced instructor in Engineering was instrumental to discuss IBM’s energy efficient practices.
This study represents a contribution to development of reading instruction at school level. Reading researchers have been mostly concerned with studying the individual student's reading development, especially students with reading difficulties. In recent studies we now see a stronger focus on contextual factors, not least the school organization (Alexander & Fox, 2004; Bereiter & Scardamalia, 1989). A study of literacy teaching in Norwegian schools after the first PISA-report, demonstrates the significance of emphasize reading instruction at school level (Rasmussen, 2003). An important contribution in this field comes from Spillane and Coburn who have documented the relationship between school leadership and reading development (Coburn, 2005; Spillane, 2005). They show that the principal has a crucial role in initiating and coordinating collective discussions about reading instruction.

This paper is based on an action research project, in which reading experts / researchers supported the principals and teachers at seven schools in developing their school's reading instruction (Aas, Aubert, Lyster, & Piltingsrud, 2006). They started by introducing new ideas about reading, theory and practice based, in seminars. Next, at the individual school, the participants discuss the ideas in detail, and implement various changes. The project as a whole, aims at tracing processes in innovation. However this paper aims to explore: How can an organizational discourse about reading develop the schools reading instruction? The reading project is part of a national strategy “Make space for reading”, and I have functioned as the project manager and as a researcher (Aas, 2009).

In the analysis I draw upon Cultural-Historical Activity Theory (CHAT), in particular the central role of contradictions as sources of change and development and expansive learning (Engeström, 2001). CHAT can be used to understand systemic change, in this case to study how the participants collaboratively construct new practices, and how they use different resources in this process. Furthermore CHAT has the potential for analyzing an object oriented, collective, and culturally mediated activity system in all its complex interactions and relationships. The minimum elements of this system include the object, subject, mediating artifacts (sign and tools), rules, community, and division of labour (Engeström, 1987). The study of organizational discourses focuses on the ways in which actors draw on, reproduce, and transform discourses, and, in so doing, produce social reality consisting of discursively constituted objects and ideas (Hardy, et al., 2005).

The data material consists of reflection papers and group interviews with the schools and the research log that I wrote during the project years 2004-2005. Interaction analyses of episodes are used (Barab, Hay S., & L, 2001; Jordan & Henderson, 1995) to identify contradictions between the
participants private constructions and the transformation of the object throughout the project. The episodes are linked to the phases in Engeström’s expansive circle.

Findings show that a discourse about the gain and the strain of monitoring students’ achievement for improving reading instruction has the potential to uncover different teachers practices, to negotiate about meaning, to model a more collective reading instruction, and to implement the changes in the whole school organization. Working on a collective object, like reading instruction in school, represents a possibility for exchanging knowledge and experiences among the participants in the school, as well as organizational changes. Tensions or conflicting voices in the discourse emerge when the participants argue from their position as principal and teachers. In the process of negotiating about meaning and modeling changes and new routines, the tensions work as constructive growing edges. Nevertheless, in a longer-term perspective tensions can evolve as disturbing conflicts, especially in division of labour.

In the initial phase of the discourse, the symbolic aspect is in the front. Disturbances and tensions occur as different views of the purpose of testing. The investigation of the test practice uncovers many private test routines and the participants construct a new common object, a collective reading instruction. This might be a challenge when we know that teachers interpret directions differently, stress different areas of the curriculum in different ways and use different approaches to literacy reading development. From the principals point of view tools for administration is in focus, while the teachers are more interested in improving their own reading instruction. Configuration of teacher teams represents a way of acting on a collective and systemic level, which might be threatening the traditional teacher autonomy.

Emphasizing the participants similarity and shared interests they build a joint enterprise about reading. Within the framework of a collective identity contra dictionary views and arguments functions as useful growing edges in modeling a new collective practice, including structural changes. This focus on contextual factors is similar to findings in recent studies in reading focusing on the school organization (Alexander & Fox, 2004; Bereiter & Scardamalia, 1989). But a critical phase in action research (Carr & Kemmis, 1986) or expansive learning (Engeström, 2001) is when you think you have finished your developmental work by for example implemented new routines in the school organization. After a while new routines will become unconscious actions or operations (Leont'ev, 1977), and then earlier contradictions will evolve. This is what happens in the schools when reading instruction no longer is a hot topic among the experienced teachers and at least not internalized knowledge among the new teachers. In other words ongoing work on collective objects seems to be necessary in order to improve the schools reading instruction.

Implications of this study are that action research represents a possible way of developing the
reading instructions at School. Collaboration between reading experts, principals and teachers are fruitful in order to build new knowledge. Organizational discourses stand out as a crucial way of building a collective framework for reading instruction. The principal has a critical role in leading the discourse; reveal contradictions between the participants and initiate structural changes in School.
Sociocultural approaches to early childhood education are recognised for an emphasis on the role of contextual, cultural and historical influences on the development of children’s learning within their communities. Sociocultural practices promote children’s learning through focus on 3 planes: the individual; relations between individuals and relations between the individual and larger community; and learning within organisational settings (Edwards, 2006). Addressing these three dimensions requires the interaction of learning experiences with people and agencies other than the early childhood centre. This contrasts with traditional approaches to early childhood curriculum developed within dominant frameworks of child development where children’s learning is typically separate from the contexts and experiences of their daily lives, creating barriers to families’ understanding of their children’s learning. This is likely to be exacerbated in contexts of poverty.

Planning of sociocultural teaching-learning processes within the three planes requires that educators learn and engage in practices that include:

1. supporting the learning and development of the children
2. setting socially valued goals based on the shared values of agencies, educators and families
3. encouraging children’s learning and initiative by creating a relevant and connected learning environment
4. recognising children’s competence by providing invitations to children to actively participate in the world
5. affording importance to cooperation among the children and between children and educators (adapted from Edwards, 2006, p. 239).

This paper reports on research findings emerging from a project forged in a unique transnational partnership between 3 Chilean agencies and an Australian university. The project involves early childhood communities in a regional area characterised by considerable poverty and social disadvantage. A key focus of the Programa Futuro Infantil Hoy has been to introduce new knowledge for Chilean early childhood educators about sociocultural practices and informed perspectives on how these can relate to their work as educators. A key question is to what extent can sociocultural approaches be made accessible to, understandable by, and engaged with, by a group of Chilean educators. How the educators involved in this project understand, interpret and
respond in practice to sociocultural approaches to early childhood education is one of the factors examined and that will influence changes to their existing early childhood curriculum in the near future. A key intervention has been to provide for the professional learning of all staff in the project centres. This has involved conducting workshops to provide the project’s participants with access to knowledge about sociocultural practices to examine new practices in relation to current understandings and to imagine new possibilities for pursuing these within their communities. Through the workshops participants shared their current knowledge of early childhood education, were introduced to socioculturally informed early childhood curriculum practices, engaged in examining their efforts to engage in sociocultural practices, and re-examined their changing views on these practices. The use of contemporary technologies has been a key strategy in engaging educators in critical reflection and analysis and developing communities of practice as well as being influential in participants' development of innovative community engagement pedagogies. These experiences have provided participating educators with access to knowledge of current international developments in sociocultural practice.

The project has been framed within an ethical framework in which democratic and collaborative principles, capacity building and authentic relationships are key commitments located within a theory of practice through which existing historically based practices and beliefs are challenged. A second key question asks about what is at stake in re-forming existing practices and adopting new approaches.

The methodological approach adopted in this project is a reflexive empirical one whereby we have shifted focus from the empirical data itself to as far as possible, a consideration of the perceptual, cognitive, theoretical, linguistic (inter) textual, political and cultural circumstances that form the backdrop to – as well as impregnate – the interpretations (Alvesson & Sköldberg, 2009, p.9). We are adopting an abductive approach to research and data interpretation, which is in reality, the method most often used in practice and case study-based research (as opposed to inductive or deductive methods). Abduction uses an overarching hypothetic pattern seen in the first case, which is strengthened by new case observations. The empirical area of application is developed and the theory (the hypothetic over-arching pattern) is successively shifted and refined (Alvesson & Sköldberg, 2009).

Multiple data collection techniques were used in Programa Futuro Infantil Hoy, including questionnaires, reflective journals, audio recording with transcription of interviews, digital visual
records of change, and reports from a team learning software system. Our analyses of the data began with sorting the recorded evidence according to emergent themes, and then using abductive processes to develop understandings from the data to inform interpretation.

In this way data analysis activities have illuminated important issues associated with engaging in collaborative activities in which a curriculum and pedagogical change agenda is strongly foregrounded. Drawing on an extensive data set, this paper explores questions and issues that the gathered evidence has illuminated with a particular consideration of:

• What it means to implement a socio-cultural approach to early childhood curriculum in Antofagasta, Chile
• How sociocultural concepts that are introduced within a pilot project conducted in a partnership with a foreign university are adapted and taken up in local sites How can these be locally, regionally and nationally meaningful?
• How implementing a socio-cultural approach might contribute to high quality early childhood provision in Chile.

In a context of substantial evidence about the positive impact and outcomes from the pilot of the Futuro Infantil Hoy project, these issues are centrally important in building deeper understandings about factors implicated in mobilising pedagogical change, and the significant ways socio-cultural approaches might contribute to improving quality of children’s learning, enhancing family involvement and addressing inequalities deriving from children’s experience of living in social disadvantage.

139. Designing communities of learners for vocational orientation

Annoesjka Boersma - Geert ten Dam - Monique Volman - Wim Wardekker

In Dutch pre-vocational secondary education it has become common practice for students to learn in workplaces outside school or simulated workplaces inside school. Although workplaces help to offer the curriculum in an appealing way, workplace learning as such is not always effective. Real workplaces are usually not designed for learning and simulations are often not based on all aspects of the workplace. In many cases attention is only paid to technical aspects, leaving out social and cultural aspects of working. The danger is that students learn how execute vocational tasks according to fixed steps, and do not learn how theoretical concepts can be used as tools to think with. This keeps students from developing a critical stance towards vocational practices, and the capability to deal with vocational practices that are new for them. Another problem of focussing on technical aspects is that it restricts students’ vocational orientation. Adolescents are in search for their identity. They want to know who they are and where they belong. Especially the social and cultural aspects of work are meaningful for students, as these aspects enable students to determine whether they want to be part of a specific community of vocational practice or not.

Our research program aims at optimizing teaching and learning processes in pre-vocational secondary education, and in particular at students’ orientation at possible future occupations. From our theoretical understanding, vocational orientation that makes sense to students requires them to be part of a ‘community of learners for vocational orientation’. We elaborated a theoretical framework for the design of learning environments that foster such a community, combining the concepts ‘community of practice’ and ‘community of learners’. In short, the concept of a community of practice (Wenger, 1998) led us to conceive of learning in pre-vocational secondary education as participating in an increasingly more competent way in the practices of vocational communities. The concept of a community of learners (Brown & Campione, 1996) focuses more deliberately on learning that offers students opportunities to distance themselves from the immediate exigencies of the work situation. The combination of the concepts entails a community of learners for vocational orientation in which participation and critical reflection are balanced. In such a community students are stimulated to develop an inquisitive stance that enables them to distinguish directions in which they are willing and able to develop themselves. Moreover, they are initiated to developing a professional identity. The framework comprises four interrelated parameters: shared learning, meaningful learning, reflective learning and learning for transfer. Ideally, these ways of learning take place in a community of learners for vocational orientation.
Subsequently, we conducted a two year design experiment in cooperation with two schools for pre-vocational secondary education. During the first year teachers and researchers jointly redesigned parts of the curriculum of the vocational subject Care & Welfare. The four parameters of our theoretical framework served as guidelines. At each school two series of lessons were the result. During the second year of design these series of lessons were redesigned, tried out and evaluated summatively.

![Diagram of series of lessons](image)

**Figure 1. Series of lessons investigated at each school**

But did students experience to be part of communities of learners for vocational orientation during the designed series of lessons? And if so, how did the learning environments foster such communities?

Quantitative data were collected by means of a student questionnaire about the learning environment for each series of lessons we (re)designed and for the regular series of lessons that preceded the designed ones. The results of this questionnaire would show whether students found themselves engaged in shared learning, meaningful learning, reflective learning and learning for transfer during the series of lessons. The analysis was done by means of a multilevel technique for fixed occasions designs (Snijders & Bosker, 1999).

Qualitative data were collected in order to evaluate how exactly the series of lessons fostered learning communities. Two series of lessons were examined in more detail: Activity Morning I and Activity Morning II. Several data sources were used: reports of the design hours, student and teacher material, lesson observation reports and videotapes, stimulated recall interviews with students, and stimulated recall interviews with teachers. These data were systematically analysed by means of matrix-display techniques (Miles & Huberman, 1994).
The Activity Mornings both took about 40 lesson hours. The students learned about working with school children by organizing, carrying out and evaluating an activity morning for 6 to 8 year old children at the site of a nearby primary school. The students formed a learning community, with each other, their teachers and two primary school teachers.

The multilevel analysis showed that students said to have learned in a shared, meaningful and reflective way with a focus on transferable learning outcomes more than in regular lessons. In fact, all designed series of lessons, except the first one, fostered communities of learners for vocational orientation more than a regular series of lessons. Our theoretical framework thus turned out to be a useful tool for the design of learning environments that foster communities of learners for vocational orientation.

With respect to the Activity Mornings, meaningful learning topped everything. Working with real children and real primary school teachers had made students in fact experience what working with children entails. Next to that, students had gotten many opportunities to have their say with respect to both the content and the way of learning. They felt they really were given responsibility for the preparation and smooth execution of their activity morning. This all made students feel to be members of their community of learners for vocational orientation, a community that enabled them to take part in the adult world of primary school teaching and reflect on that experience as well.

Our next step is to examine whether the learning communities indeed helped students to vocationally orientate and to develop a critical stance towards vocational practices.
140. First year as mentor – developing an identity as teacher educator?

Vivi Nilssen

Introduction and theoretical framework

The focus of my research project is on teachers and their role as cooperating teachers, or mentors in teacher education for primary school. In Norway field experiences are an integrated part of the four year teacher education programme. Student teachers stay together with a teacher and her pupils for about 6-8 weeks a year. These teachers are allotted time and paid to mentor student teachers about two hours each day. Mentors have their primary occupation at "practice schools", schools which have an agreement with the university college to be a placement for student teachers’ field experiences. Thus there are several mentors at the same site, both newcomers and experienced mentors. I have followed six teachers at two different schools through their first year as mentors for student teachers. I want to gain more insight into how those who enter into this double role as both teachers and mentors for the first time, perceive their role. What are they experiences? How are they prepared to function as mentors? How is it to be employed at a “practice school”? How do they collaborate with the more experienced mentors?

There is a lack of research in Norway in this field. From international studies we know that the passage from being a teacher of children to becoming a mentor of student teachers does not occur naturally (Carroll 2005, Orland 2001, Edwards & Collison 1996). Bullough (2005) points to how mentors inherit the role as boundary spanners, having one foot in the school and the other at the university college. Naturally, they seem to have their primary identification with teachers and children. Mentor identities are subsumed under teacher identities. This can be problematic because the White Paper 11 (KD 2009) states clearly that everyone involved in teacher education in Norway should take responsibility as teacher educators. Feiman - Nemser (2001) shed further light on the issue as she asserts that "mentor teachers may not have adequate preparation or time to work with student teachers, and they may not define their role and responsibilities in educational terms" (p.1031). Are cooperating teachers in Norway well enough prepared to be teacher educators like the white paper propose? Do they talk about their work in educational terms? Do they develop an identity as teacher educators?

To develop a further understanding of this issue I will build upon Wengers (1998) work on how identity develops through participation in learning communities. Participation and engagement in social practice is the fundamental process by which we learn and become who we are. We are constructing identities in relation to these communities.
Methods
The study is situated within a qualitative, interpretive paradigm. My main data are interviews and writings. I interviewed each teacher before they met the student teachers for the first time. Inspired by focus group research (Morgan 1998) I arranged interviews throughout the year as four group discussions at each school. Different topics provided by both me and the research participants were discussed. All interviews were transcribed. Additional data material are logbooks (or diaries) written by the mentors. The idea is that this will probably give me insight into their immediate experience. To contextualise the research I have read logs written by the student teachers and the response given them from the mentors. I have also read dialogues between mentors and student teachers in their virtual class-room. Procedures and techniques from the “constant comparative method” (Glaser & Strauss 1999, Strauss & Corbin 1998) are used as analytical tools in the analysis.

Findings
Preliminary findings suggest that the cooperating teachers enjoy their new role. The interactions with student teachers give them “new glance and new energy”. However, from being a confident teacher they are now in another position in their new role. They lack confidence and feel insecure in their position as mentors. As a consequence they position themselves as someone who has the role of implementing what “others” have decided, both regarding content and structure. These “others” are either lecturers or administrators at the University College. They do not seem to have the independence as a professional teacher educator. Although they are employed at practice schools together with experienced mentors, they are left alone in their daily work with the student teachers. There are no regular meetings where they can discuss their new role with more experienced mentors. Actually, the group discussions I arranged as part of my research became the only arena throughout the year where they met other mentors, in this case other newcomers. In my presentation I will discuss how the lack of an arena to discuss their new role, a learning community, seems to hinder development of their identity as teacher educators.

References:

Carroll, D. (2005). Learning through interactive talk: A school-based mentor teacher study group as
a context for professional learning. Teaching and Teacher Education, (21), s. 457-473.


The Driving test in Norway constitutes a central government administration, where the decisions, guidelines and ideas are given from the top and passing several levels before the examiner perform it in praxis. In my PhD I have done a project where I turn it round, and let the ideas come from the examiners in the praxis area. I hope this intervention research study can be relevant to develop a new Driving test.

The assessment in the Driving test is done by examiners in Norwegian Public Roads Administration. The Norwegian Public Authorities look at road safety as a national affair, and the Driving test is meant to assure a good quality of the drivers. The National Transport Plan (2002-2011) is a document from the Parliament about how we shall take care of the road safety in our country. This document lead to a new curriculum (2004/2005) for the driver education, and the driving teachers were expected to do changes in their teaching. However, there were no corresponding changes done in the Driving test. It is my opinion that there is too little accordance between goals and methods in the education, and the methods and tools for assessment used in the driving test today.

Historically, the tradition in the driving test has been constructed in the technological area. In the beginning of 1980-ies The Directorate of Public Roads engaged researchers to develop a more standardized test. It was a strong intention to do the assessment and the test situation as objective as possible. The result was that they suggested methods and tools used in the quantitative research. Those tools and methods are still used in the driving test, which is done only by observing the action. There is no communication about how the candidate is thinking in the situations. It is my opinion that the practical driving test has its roots in the positivism, even though the curriculum gradually has moved into the constructivism.

I think we can influence the road safety trough the Driving test, and we have to develop it so there will be a harmony between the curriculum and the way we do the assessment. It ought to be something more than a test. Through the assessment, we send signals to the society, and influence the training and the learning process. Today the examiners have another background than in 1980-ies; almost everyone is by profession also driving teachers, and can use their
pedagogical competence in the assessment.

It is my understanding that a Constructive perspective in the assessment will open new possibilities when we talk about tools and methods in the driving test, and the language is a tool which can be used in the assessment. Idealistically, I should say that all the assessment ought to be done by the driving teacher and the pupil during the process. But that is not realistic in our system today. Instead, we had to find tools and methods which could be usable in the existing system.

**An intervention research study**

I decided to do an intervention research study in interaction with eight examiners in a project for one year, in 2009, at two local stations in the Norwegian Public Roads Administration. The Examiners have knowledge from their practical area, and they know the challenges in the local places. I know the field, I have knowledge about methods in research, and I can attach theory into the discoveries. There has been a mutual exchanging, where both the researcher and the participants have learned from each other (Postholm 2007). The process can be described by the Expansive Learning Circle (Engeström in Engeström, Miettinen & Punamäki, 1999/2006, p 384).

![Fig.1. Sequence of epistemic actions in an expansive learning cycle (Engeström in Engeström, Miettinen & Punamäki, 1999/2006, p 384)](image)

Figure 1 shows that the process in an intervention research study starts with asking questions about
the existing praxis, mixed with historical analysis. I have used the blue arrows to illustrate the expansive work in our project, like a spiral. I had to make some planes before I involved the examiners, because this is a research in my PhD. There is a framework for the research managed by myself and the co-operation agreement with the Directorate of Public Roads, which I needed to do this project. At the next step, I tried to establish a good teamwork in the group, where we had to define the challenges and to see possibilities.

In the process, we both communicated by mail and had workshops where we discussed the existing driving test and the curriculum. We had brainstorming about how we could try out the ideas in the project, and the discussion continued afterwards when we were driving in the area to see what was possible to do. I tried to let the participants influence as much as possible, and I had to manage the ideas so that they were inside the framework of the project. In an interview one of the participants told about his experiences in the workshops.

I would call them (the workshops) daring! – Yes, a bit chaotic! Thoughts, ideas and almost quarrels have developed; it has been allowed and great, the ideas have been hovering for a while. Then, after some time, you have tightened some loose ends. …Yes, you have done so, but we agreed on that it was about time when you did it. I think it has been very daring actually. It has been brave, because when you let people like this loose, like xx, zz and me; this free, then it is not taken for granted that it is possible to tie us together again (Examiner in the interview).

This answer really tells a lot about how it is to do an intervention project and research! I have got a lot of experiences and data about the process and the collaborative knowledge creation, and some of them I would like to share with you in Rome.
144. Breakdowns and Contradictions in an Online Conference

Tony Carr

Within activity theory contradictions exist as tensions within an activity system which can cause breakdowns in the expected operation of the system and may shift a system into another level of functioning. These results can be observed but are difficult to predict in highly complex activity systems. Nevertheless an analysis of the observed breakdowns and contradictions within even a well functioning, dynamic activity system is a first step towards redesigning key elements of the system. The case for this paper is the e/merge series of biannual online conferences on the use of educational technology in African universities (http://emerge2008.net) which were run in 2004, 2006 and 2008 by the Centre for Educational Technology at University of Cape Town. Another paper currently in development reviews the literature on conference design and considers the nature of highly engaged online conference participation. Some of the characteristics include communication across time and space, scope for reflective engagement, access to a widely dispersed network including international and regional experts, and experiential learning about interaction in online learning community.

The 224 participants in e/merge 2008 were mostly based in Africa however the conference also included presenters and participants from 5 other continents. Feedback from participants and facilitators suggests that the e/merge conference are able to promote engaging and useful community of practice interactions for educational technology practitioners and researchers however more rigorous research is needed to redesign the conference as the educational technology profession in Africa matures and as participants gain access to new collaboration and teaching tools. The existing dataset already suggests several forms of breakdowns including sporadic failure of technology and striking disparities in participation metrics among registered participants including logins and the use of synchronous and asynchronous communication within the conference.

The data for this paper is still being analysed so the abstract focuses primarily on the observable breakdowns. In its full development the paper will use interview and survey data and excerpts of online discussion logs to identify and analyse several contradictions within the activity system of the e/merge online conferences. The most obvious contradiction exists between the technology practices and day to day tools of most conference participants in African countries and the toolset available for use in online conferences. Constrained use of online learning environments in tertiary education in several African countries has been well documented (eg Czerniewicz 2007). The
conference designers originally consciously chose to run the online conference with a toolset which would be unfamiliar to many participants in order to facilitate experiential engagement with the affordances of online interaction environments.

Most of the breakdowns described by participants related to the use of the conference technology. The conference environment in its evolving iterations proved to be remarkably stable and the few failures experienced during the conferences were quickly fixed by the highly experienced technical team. Some of the participants with significant online experience noted minor flaws in some of the conference tools which could not be modified during the conference. At a more basic level the unfamiliarity of many participants with the online conference environment resulted in queries about use and navigation. While most of these were rapidly addressed by the technical support and conference hosting team some other issues experienced by several participants were not amenable to an easy resolution. These included power failures in participant locations, bandwidth disparities, and organisational firewalls blocking access to the live online meeting room.

Some of the breakdowns which may be partly related to the social design of the conference and the significant numbers of first-time online conference participants include a highly skewed distribution of online participation across the conference and the high percentage of participants who were unable to step from the relaxed, informal conversation of the Cafe' forums into the formal conversations about papers and presentations. Most respondents to the conference evaluation surveys stated that their participation was constrained by commitments to work and family however it may still be useful to consider whether design choices including the facilitation process can influence the level and nature of participation.

Some participant statements in conference forums, online evaluation surveys and interviews suggest possible breakdowns within some of the conference discussions themselves. These include statements about presenters who did not engage with the conversation, presentations prepared for other contexts, shallow conversation and the unresolved nature of conversations at the end of the assigned time period. The sheer volume of conversations was identified as overwhelming by some of the more time constrained participants. In some cases even the daily updates to facilitate navigation of the online interactions were regarded as an information overload. Some of the more specialised conversations including those about Open Educational Resources and the use of 3D learning environments attracted few participants. This may simply indicate that conference participants had limited exposure to these issues.
The observable breakdowns provide some clues concerning the nature of contradictions within the conference activity system. Some potential contradictions in the conference activity system which are likely to be explored in the paper include the huge differences in perspectives and online collaboration experience across the participant group and the effects of introducing more culturally advanced tools to the core activities of the conference. One of the key challenges in the next part of the paper relates to the identification of contradictions which are able to drive transformation of the online conference system (Engeström and Sannino 2010, p7). The paper will conclude with some provisional design recommendations for the next online conference which draw on the analysis of breakdowns and contradictions.


Improving energy efficiency is an energy policy priority in almost all countries. It is predicted that the transition to a low carbon economy and requisite changes in consumer awareness will take decades. It is clear that routine behavior resists disruption. Paradoxically, although much research on energy education has taken place, there is little on the investigation of these barriers. Therein lies the novelty of this paper.

Previous research pays insufficient attention to the unit of analysis when examining energy-saving “culture”. Effective education for energy efficiency can, at first glance, be proven by statistics acquired through individual self-report surveys. In such cases, research often shows an increase in energy conservation and a reduction in energy squandering behaviors (Zografakis, 2008). Instead, our purpose in this study is to explicate the inner contradictions within green school-fair practice using the system as the unit of analysis.

A typical approach to the analysis of contradictions involves relying on Engestrom’s (2001) model of Activity Theory (AT), which depicts how historically accumulated structural tensions arise within and between elements of an activity system. Engestrom identified four levels of inner contradiction, those occurring between elements (Hardman, 2005), and within a single element (Barab et al., 2002). In other cases, contradictions take place between two interacting activity systems (Murphy & Rodriguez-Manzanares, 2008). Some studies identify contradictions resulting from within and between the internal systems (Mwanza, 2001). Recently, there have been many attempts to refine and reconsider problems and possibilities of the six components contained in Engestrom’s analytical understanding of contradictions. For example, division of labor (Warmington, 2009), subject (Blunden, 2007), objects (Holt, 2008), and rules (Worthen, 2008). This study is in line with this inquiry.

Of the three mediating means, rules are considered to be the component with the most historically accumulated nature. This study focuses on contradictions within the rules component. Different rules seemed to be designed carefully and to work well individually. However, when put into practice together, the important “situation” element was not taken into account. Subjects are
influenced by their own psychology, and by their positions within wider and enduring macro-social structures. In this study, we will take the interaction between subjects and the situation into account.

The analysis is then augmented with the concept of the boundary from Communities of Practice (COP) theory (Wenger, 1998). Originally, the boundary referred to an explicit marker passed when an individual moved from one COP to another. Participation and reification can both contribute to the continuity and discontinuity of a boundary. In this study we emphasize the sense of ambiguity the participants experience in an activity system. In particular, Wenger claimed that “The ambiguity inherent in reification presents new challenges when this ambiguity is uprooted from the practices in which it functions as an interactional resource (p.110)”. In comparison, we suggested that the ambiguity inherent in participation also presents new challenges to subjects in this activity system. By incorporating the concept of the boundary into the AT framework, this study attempts to enrich our understanding of how contradictions emerge through the ambiguity of participation.

The methodology was developed in the context of analyzing the energy-saving practices of a half-day green school fair in a school context. The implementation of the green school fair is part of the integrated energy education curriculum in a junior high school (FM). The socio-economic range of the seven hundred students in this school district is generally medium to low. In preparation for the green school fair, each class presented ideas for a stand based on green shop guidelines.

Data were collected from several sources. Discursive data from a change laboratory constituted of both practitioners from the FM school and researchers from a university were generated in bi-weekly meetings. Observation notes from weekly subject meetings of teachers of two subjects (science and counseling), from the green school fair, as well as interviews were also collected. Making contradictions visible involves a phase of analysis in which researchers zoom in on the analysis of disturbances (Engestrom, 2008). After identifying contradictions in the form of themes, we then use the boundary as the conceptual tool with which to further analyze and propose an intermediated concept (Engestrom, 1999) to search for new solutions.

Three distinct contradictions are identified: (a) the green shop guidelines versus fund-raising, (b) the green incentive act versus convenience, and (c) enforcing versus relaxing recycling rules. To illustrate this, during the green school fair, there existed tension between the desire to represent each class’s realization of the ideal green stand and efforts to maximize the profit of their stand for a class activity fee. The stands that followed green store guidelines strictly introduced more
inconvenience for the customers and their items therefore fared poorly at market. Interestingly, whereas the students followed the recycling rules as firmly as during normal days, they wanted to have fun during school fair day, even though it was held on campus. Similarly, while they behaved like typical fair visitors with excitement and a relaxed mood, they cleaned the trash and sorted all the recycling items thoroughly right after the fair.

The new rules for the green school fair may be formally implemented, but will probably still remain subordinate to, and resisted by the old general form of the activity. Apparently, the students might react with resistance. Using the boundary as a lens, however, contradictions were considered as rooted in the interwoven roles of consumers versus shopkeepers, in the shift between a formal curriculum versus an “off-duty” extra-activity, and also in the wondering moments between students on campus versus visitors in a night market.

Boundary shifting in the psychology of the individuals is the intermediated concept revealed in this study. Both new and old rules unavoidably co-existed in the activity system. In addition to generating structural contradictions as noted by Engestrom, by analyzing the shifting moments along the temporal boundary and the boundary related to the locality of practice, this study takes situation into consideration and provides a more complete picture of where contradictions might be rooted.
146. Folk Pedagogy and Instructional Patterns in the Mathematics Classroom: Postcards from Chile

David Preiss - Susana Valenzuela

Whereas research on teaching has accumulated a large amount of evidence about what distinguishes teacher communication around the world, there has not been much empirical research on teaching conducted in Latin America, nor has this research received the attention it deserves. For instance, the seminal large video surveys developed during the past decade by the Trends in International Mathematics and Science Study did not include Latin America (Stigler, Gallimore, & Hiebert, 2000). Where Latin America is concerned, large-scale study of teaching has been implemented in Chile by a government initiative targeting the quality of education: Docente Mas (hereafter, DM), a major government initiative to assess teaching quality, which has implemented a large-scale series of video surveys. Using material collected by this initiative, this study reports the findings of a study intending to elucidate which are the main instructional patterns middle-school teachers adopt. Material on 114 teachers was randomly sampled from the universe of teachers assessed in 2005. Codes for this study were inspired by those of the TIMSS 1999 video study. They include:

Social organization of the lesson

1) Teacher-lead public interaction: This code refers to a typical whole-class situation involving public talk. This code is specified by two sub-codes:
   a) Question and answer exchanges: Interaction is based on a sequence of, at least, three teacher-initiated question-and-answer exchanges. It includes those exchanges focused on shared assessment of problems previously presented by the teacher for the class to work on independently.
   b) Lecturing: Teacher presents mathematical contents without initiating question-and-answer exchanges with the students.

2) Student-lead public interaction. A student leads a public discussion or makes a presentation to his or her classmates.

3) Individual private work. The students perform individual seatwork, whereas the teacher circulates around the classroom publicly or privately interacting with groups or individual students.

4) Group private work. Students perform group seatwork, whereas the teacher circulates around the classroom publicly or privately interacting with groups or individual students. Attention is not shared between the teacher and the students but within group of students.

Mathematical work
1) Non-mathematical work: for instance, socialization, disciplining students, motivating students, etc.

2) Copying content: two minutes or more copying content from the board.

3) Reviewing content: the teacher focuses on content previously taught, without engaging in problem solving.

4) Introducing new content: the teacher presents new material to the students either by means of problems or by means of concepts definition.

5) Practicing content: the teacher focuses on content practice either by conventional problem solving or by other means.

Codes for introducing new content and practicing content could be specified by the following sub-codes:

a) Problem solving: Mathematical work involving problem solving (for instance, addition, subtraction, algebra, equations, measurement, geometry, graphing.) As in the TIMSS 1999 Video Survey coding scheme, problem solving may involve:
   i) Independent problems, that is, problems that are presented and worked on an individual basis, either publicly or privately;
   ii) Concurrent problems, that is, problems that are commonly taken from texts or guides to be worked on privately, although some of them might be eventually discussed in the full class;
   iii) Answered-only problems, that is problems that have been previously done during either tests or lesson activities,

b) Other mathematical work: Mathematical work that does not involve problem solving and that may involve presenting new mathematical definitions or concepts, relating mathematical ideas to the real world, or play not involving problem solving

c) Mixed independent problem solving and other mathematical work: Mathematical work that involves a mixture of independent problem solving and contextual activities such as those mentioned above.

d) Mixed concurrent problem solving and other mathematical work: Mathematical work that involves a mixture of independent problem solving and contextual activities such as those mentioned above.

Procedure

We applied the codes presented below to all the behaviors that lasted one minute or more. If there was a behavior that lasted less than one minute, then its time duration was added to the subsequent behavior. Two coders analyzed the lessons. Double coding was performed in approximately one-
third of the videos. Consensus values were acceptable for all the codes (p>.75). To solve disagreements, coders contrasted and discussed their particular results and reached a new agreement based on the joint observation of the material.

**Main results**

Teacher-lead public interaction was the main activity performed by teachers in the lessons observed. It took, on average, the largest amount of lesson time and it was the most frequently implemented activity. The favored way for teachers to lead public interaction was by means of question and answer exchanges instead of lecturing. When students were doing seatwork, data suggest a slight preference for private work instead of group work. Inspection of means for mathematical work reveals that the activity favored by teachers is practicing content, followed by reviewing content. In comparison to these two activities, time allocated to introducing content was relatively minor. Because of teacher emphasis on content practice, I decided to inspect what was the teachers’ favored kind of practice. Teachers had a preference for practicing concurrent problems, although some form of mix between concurrent problem solving and other mathematical work is present. Still, the use of guides or problem series seems to be a cultural signature of the observed lessons. Indeed, inspection of boxplots for the different kinds of practice, reveal that those teachers engaging in a form of practice other than solving concurrent problems are statistical outliers.

**Conclusion**

Chilean middle-school level lessons of mathematics possess a structure marked by teacher-led problem solving of concurrent problems. Most of the analyzed lessons were organized around the repeated practice of mathematical problems. In a similar way than teachers in the USA, Chilean teachers present students with definitions and procedures that they have to practice later on. Although Chilean teachers seem to adopt a dialogical approach that pervades conventional lecturing, most of student independent work is done individually instead of in groups. Taking into consideration these cultural markers, I named these lessons as the private appropriation of terms and procedures.
This paper examines organizational innovations with ICT in schools, showing how a school leader teams’ construction and development of problem-spaces or objects of activity is a key aspect of such innovative processes. For several years the Norwegian Educational Authorities have launched policy initiatives, programs and projects to ensure that schools make use of ICT for teaching and learning. In the recent school reform, the Knowledge Promotion, digital literacy was introduced as a basic skill to permeate all subjects in school. The so-called digital revolution (Krumsvik, 2007) creates possibilities, dilemmas and challenges for schools in contemporary society. A new digital epistemology may be required for education. This ‘third way’ (Østerud, 2004) requires hands-on experiences and development of new knowledge, innovative work that “best may be seen as continuous processes, with particular product embodiments simply being arbitrary along the way” (von Hippel & Tyre, 1995, p. 12).

The paper is based on a two years study of a project in a municipality in a rural area outside Oslo, involving three schools. The common purpose of their projects was to enhance learning conditions and raise pupil achievement by using ICT to support adapted teaching and learning. For the purpose of this paper, we have analyzed meetings in a leader team in one of the schools, a primary school with 248 pupils aged 6 -12, and a staff of 26. The school aimed to implement a variety of digital tools in their teaching and learning practices, such as e.g. cameras and videos, interactive digital boards, and digital portfolios. The tools should connect to a municipal portal, adapted and developed in the municipality from Microsoft Learning Gateway. The portal was intended to be the pivot for the school’s innovative efforts, supplies each pupil with his or her own personal learning site, allowing for documentation (and retrieval) of teachers’ work in the classroom in the form of video recordings transferred from class instruction to individual pupils’ sites, and pupils’ work in the form of portfolios that may contain process documents and presentations of finished work. In addition, the portal would give access to a number of resources for teachers and pupils. Such resources could be personalized by the teacher for individual pupils. This was an ambitious project, involving e.g. the development (or adaption) of technologies, community development, implementing new rules in the organization, and working with parents for support. Thus, throughout the project, the object of activity was constantly evolving and tools and objects shifting. Our interest is in exploring these processes.

For this paper we have formulated two interlaced research questions:
1. How are objects of activity constructed and reconstructed in the leadership team over time?
2. How are such constructions made consequential for the schools innovative work?

In the organizational and innovation literature sequences of formulating and debating objects of activity are often missing, and problem spaces (and solutions) are defined by leaders or authorities in advance to be implemented in the organisation. The challenge for leaders, then, is to instigate processes that will lead to successful implementation. We aim to unpack the processes through which problem spaces are constructed in a leader team. CHAT gives a theoretical framework for the analysis of social action as members of the team pursue the goals of the project. In CHAT, action is understood as “embedded in collectively organized, artefact-mediated activity systems” (Engestrom, 1999, p. 380). In the situated enactment of innovative work to improve teaching and learning in schools, objects (as purposes or fields of enquiry) are simultaneously local constructions and socially and historically defined motives; they are emergent and invariable. Any object defines “a horizon of possible actions” (Engestrom, 1999, p. 381) and within these horizons actions and operations are performed. Thus, problem solving in innovative work imply more or less intentional attempts by some or all of the participants to go beyond the given standard script to find a more meaningful way of interacting, conceptualizing and instancing the object of inquiry or the problem under investigation (ibid). Problem solving can be investigated within the processes, or “search actions” (ibid) through within subjects interact to locally construct, develop or maintain objects.

Such interactions are mediated by tools and signs in “collaborative and dialogical processes in which different perspectives and voices meet, collide and merge” (Engström, 1999, p. 382). Through the processes, the participants produce actions and tools that are contingent and historical (they carry with them the history of the activity), but they are also locally enacted, discursively produced in situations making use of the cultural resources of a practice. In that sense, we understand ‘talk in teams’ as social action constituted through collective object constructions and development of perspective in the day-to day practices in schools (c.f. Dorothy Holland & Reeves, 1996). Perspectives typically refer to point of view defined by social position, experiences, ideological standpoint. Thus, the artifact-mediated construction of objects does not happen in a solitary manner or in harmonious unison. For instance, tensions and disruptions typically emerge in the multi voiced discussions among people, and actors will try to remove obstacles and disruptions.
In the study we have collected data in three schools and in the municipal project group through observation, interviews, and audio recorded meetings. For this paper, we have analyzed in detail interactional data in the leader team in one school, using interaction analysis (Jordan & Henderson, 1995).

The analysis shows a variety of motives among team members, and in the team’s negotiations about how to construct the object, the trajectory of the project emerges in the interplay of motives. The alignment of motives – through relations of conflict and power – was sometimes neglected or overlooked, and most often, resolved through the formal authority of the school’s principal. Thus, the “why” of the project was left pending, while the team engaged into questions of “how” to proceed (cf. Nardi, 2005), resulting in ad hoc problem-solving actions on the part of the team, rather than expansive learning and innovative outcomes.
152. Disciplinary knowledge and gesturing in communicative events: a comparative study between lessons using interactive whiteboards and traditional whiteboards in Mexican schools

Juan Manuel Fernández-Cárdenas

In Mexico, there is controversy in relation to the use of Interactive Whiteboards (IWB) linked to the UNESCO awarded software ‘Enciclomedia’. In order to use this comprehensive software comprising all the curricular areas for upper primary grades, Mexico has set up more than 170000 classrooms with this technology. There are claims that this new technology will provide a better quality of teaching in Mexican classrooms (i.e. Fernandez, 2006; Silveyra and Fernandez, 2006, 2009). In this study we have looked at this issue using a sociocultural perspective, conceptualizing the use of IWBs as a mediated action in which participants construct knowledge together in a multimodal environment. More specifically, we have decided to focus on the communicative practices afforded by IWB’s in comparison to traditional boards (TWB), so that we have aimed to understand how language and other semiotic resources are used to construct common knowledge with students. We have also aimed to investigate how IWB-mediated communicative events socialize productively (or not) children into curricular and disciplinary knowledge.

We have video recorded a set of 20 lessons comparing the use of IWBs and traditional boards in different areas of the curriculum. In addition, 40 fieldnotes were constructed and 7 teachers and students were interviewed in depth. We collected these data in 3 different primary schools in Monterrey, Mexico. The goal was to have a sample of lessons representing a balanced approach to the different social conditions in our city and the variability of curricular subjects and goals pursued in lessons.

We analysed the information gathered as a set of sequenced communicative events, such as textbook exercises, collective reading, memory game, and plenary. In order to analyse the quality of communicative events between the two modalities we decided to codify all the transcribed events in terms of Initiation-Response-Feedback (IRF’s), following Sinclair and Coulthard’s (1975) theory of discourse analysis. This is because it has been argued that the quality of knowledge construction in a given event is related to the existence of spirals of sequences of turns I-R-F/I-R-F/I-R-F… (see Rojas-Drummond, 2000). With this approach we found that the IWB modality has less IRF spirals, more IR chains, and more Non-Immediately Sequential Turns (NIST) than the TWB modality. These differences are statistically significant.

Moreover, these differences were statistically consistent amongst teachers, so that all teachers also
had less IRF spirals more IR chains and more non-immediately sequential turns for the IWB modality in contrast to the use of TWB’s. In other words, there is consistency within the style of the teacher but also across the different type of sequences and tools. Thus, the way teachers use traditional whiteboards has a direct impact in the way IWB’s are used.

Looking in more detail to the transcripts of selected events, as a selection of linguistic and interactional features that are also common to the rest of our data, we found the following:

I. The role of the IWB in the events had the following variations as a tool mediating the knowledge construction process: a) interactive presentations, b) interactive exercises, c) cinema or widescreen TV, d) simulations.

II. The sequences of turns was productive in nearly all its formats, i.e. IRF spirals (to verify children’s knowledge), IR chains (to present information, to nominate options), NIST’s (to explore the use of a tool, to interpret the use of software), as well as their combination were all productive for the co-construction of knowledge. By means of these different types of interaction and language use participants showed their understanding of the situations, the tools being used, the roles taken, and the disciplinary knowledge at stake. Of course, the data shows a major responsibility of the teachers in the flow of the activity, showing their interest in the students’ understanding of the activity as a whole. This has been called by Mercer (1995) the “guided construction of knowledge” and it was possible to identify this process in the analysis of transcripts, looking in detail to the sequentiality of turns, adjacency pairs and positioning within a communicative event (Goodwin, 1997; Duranti, 1997).

III. The disciplinary knowledge that was socialised included: a) geometry notions, b) mathematical sequences, c) narrative written genres, d) historical narratives.

IV. Teachers socialize children into these disciplinary categories and meanings through the use of: a) graphical simulations, b) audiovisual and film sequences, c) oral language in use and d) predominantly gestures

Communicative practice then showed the effort of teachers to orchestrate (see Jewitt and Kress, 2003) all the different semiotic resources for socialising children into disciplinary knowledge. In particular, we would suggest that communicative practice mediated with IWB’s included gestures as the main orchestration strategy to organize talk, electronic resources displayed on the IWB and participation from the students in a coherent whole. Here we would like to highlight how participants intentionally used their body and hands to make statements about what was going in the situation: i.e. a) teachers pointing continually to particular electronic resources and areas of the IWB, b) teachers representing words with their hands, c) teachers gesturing objects such as bells and lines in electronic notebooks, d) students showing mental states such as “thinking” with a hands
on his chin. It is as if participants were constructing objects with their hands and they were invoking them to make sense of their intentions and meanings they want to convey. We would also suggest that these “objects” have different and sometimes simultaneous existence within the flow of the class.

In summary, we would be talking then of IWB’s as tools open to be used to ‘design’ multimodal communicative practices to socialise children into disciplinary knowledge. However, teachers need to be creative and aware of their resources within this process, and also, and perhaps more importantly, to be sensitive to engage students in the conversation, particularly providing opportunities for children to show their understanding of the situation, and work from there to advance in the appropriation and mastery of disciplinary knowledge and categories. Knowledge is constructed between participants, mediated by tools, and with multiple semiotic resources.
Preschool age is a sensitive for the development of creative abilities (L.S. Vygotsky, 1932/1982). The research devoted to development of elder preschoolers’ creative position (e.d. internal position of the child as a subject of creative activity). The creative position was considered as a particular case of the “internal position of personality” (L. I. Bozhovich, 1968/2008) as an internal condition of person’s active relation to situation and an internal determinant of the person’s activity.

Our postgraduate student Anna V. Sidorova used Vygotsky’s cultural & historical theory as a theoretical basis of her research. The forming experiment was directed to development of elder preschoolers’ creative position and to their familiarization with the cultural norm of creativity. The most important aspects of the cultural norm of creativity are the creative productivity, richness of content and detailed elaboration. The forming of creative position was executed by usage of “creative prompt” technique. Because translation of cultural norm of creation may characterized like a path from general to particular (in creative work - from whole image to details), creative prompts are generalized at the beginning, then more concrete. Creative prompts were directed to increase the richness of content (“What do you think you may do for understanding your work by another person?”), creative productivity (“What do you think to do with this piece of paper?”, “Nice work!” etc.). So psychologist’s creative prompts were meditative means the cultural norm of creativity. The adult was the mediator of the cultural norm. We interpret the child’s “growing in the culture” of creative work as a process of assimilation of the cultural norm of creativity.

Preschool children aged 5 – 6 took part in the experiment. The experimental program included two series (individual and group) for comparison the effectiveness of individual and group developmental work. The experimental work was series of five developmental lessons in both groups. The technique proposed by artist M. Dreznina was a basic method of experimental work. The technique correspond the creation a picture based on color pieces of paper pasted on A4 sheet of white paper. The child had arranged on color pieces of paper at A4 sheet, fixed it by glue and created a picture based on these color blots. The creation a picture based on a color blot is a classic technique of the diagnostics of creativity.

Projective drawing “The unexisting animal”, Short Creative thinking test based on E.P. Torrance Figure creativity test, “Method of Children creativity diagnostics” by V. Druzhinin & N. Khazratova and some intellectual tests were used for evaluation of experiment’ developmental potential.
The research exposed significant changes in children’s creative activity by parameters of richness of content and image detailed elaboration from the beginning to end of the experimental series of lessons. Differences between basic and final level of richness of content and image detailed elaboration maybe explained by children’s progressive assimilation of the creative position. “Creative modifications of topic” as an indicator of creativity changes were more evident in case of group form of experiment.

The research allowed us to distinguish individual variants of preschoolers’ creative position called us “active creator”, “passive creator”, “active non-creator”, “passive non-creator”, “destructor”. A criterion for distinguishing variants of creative position was motivation characteristics discovered in children behavior in experimental situation. So that, experimental method used in our research had shown not only developmental but also diagnostic potential. Individual variants of the child’s creative position are necessary to take into account in planning of developmental individual work. The approach proposed in our research is perspective for the investigation of the early predictors of self-determination in preschool childhood.
154. Becoming a teacher through collaboration: A methodological bricolage to investigate the complexity of the socially-constructed environment

Victoria Antoniadou

The overall research aspires to an ethnographic qualitative study in order to investigate the process of professionalization i.e., assimilation of teaching competences of a group of pre-service primary education language teachers, through an in-depth analysis of their collaborative activity related to three underlying tasks- required final outcomes in their year-long practicum course; (1) the design and implementation of a six-session teaching sequence, (2) a podcast complemented by follow-up activities, and (3) an individual action research.

Relating to the fundamental questions to the investigation of developmental situations (Engestrom, 2001), the research context is illustrated as follows:

Who are the subjects of learning?
Seven teacher trainees in the third and final year of their TEFL degree doing their Practicum at the Universitat Autònoma de Barcelona (UAB) during the academic year 2009-10.

Why do they learn?
To become good teachers of EFL (They stated so in questionnaire filled in at the beginning of the course, and later specified criteria for what they considered a good teacher).

What do they learn?
Skills valid for future language educators via their own ranking of the EPOSTL criteria and their own ranking.

How do they learn?
(i) Via (tele)collaboration
The UAB students engage in discussion groups with UIUC peers and face to face tutorials with their fellow peers and university mentor.

(ii) School placement
The subjects are assigned to schools, where they observe the practices of experienced language teachers and implement their units and podcasts at the end of each semester.

(iii) Through immersive use of new technologies
They use technologies new to them i.e., Second Life, Zoho, Voicethread and familiar technologies i.e., Moodle, text chats, Skype to (i) exchange feedback on the design a teaching sequence (first
semester), ii) collaboratively construct a podcast and sequence of follow-up activities that the UAB student teachers would implement at the schools (second semester).

The idea behind the instructional design was to create a multi-layered collaborative setting to engage pre-service teachers in the closest possible representation of a community of practice of teachers for them to live out learning by doing, through various sources of input.

Data
For the purposes of this paper, I will focus on one pre-service teacher, who showed positive attitude to the proposed course of instruction and exemplary development as teacher. In the final tutorial session of the course, the pre-service teacher presents her trajectory as teacher throughout the practicum and describes her “learning-to-be-a-teacher” instances, learned to plan, set objectives for her students, act like a teacher by using the appropriate linguistic repertoire.

The data examined are video and audio recordings of the face to face interactions in the classrooms, where she presents her work and exchanges feedback on it with her university mentor and fellow UAB peers, the transcripts of asynchronous (forum) and synchronous (MSN) interactions with the UIUC student teachers, and her final product (wiki) where she marks her trajectory as a teacher, through her participation in the multiple community settings created on account of the practicum course.

Theoretical framework
The theoretical approach draws on CHAT, from which it borrows the “language” to conceptualize the multi-layered context constructed in the process of the activity, with special emphasis on the mediating role of the community, tools, rules and division of labour. Accepting the importance of the premise of historicity as essential in the understanding of the activity in its existing form, this paper seeks to develop a historical, but by no means linear, account of the process that mediated the activity of the pre-service teacher in focus.

The idea is to exhibit the findings of shared learning taking place, as the subject herself describes, decompose the situations described in these findings based on the premises of the CHAT model and investigate up closely and situate this expansive process. That is, the analysis looks into the interactions produced in the collaborative instances to investigate the construction of the relationship between subject and community and the mediating role of this community in the achievement of the object. More explicitly, it looks at how the subject uses and acts upon the different types of input she receives through her participation in the communities to accomplish her object to become a good language teacher (criteria as she herself sets, based on the EPOSTL criteria
and her observation of expert teachers).

Approach to data analysis and methodologies

The idea of doing educational research as bricolage (Tobin and Kincheloe, 2006), and specifically methodological bricolage, is particularly useful for the purposes of the analysis, based on the reality that there is no one single method to adequately fit all research contexts, and give an extensive account of “what exactly goes on” in the course of a developmental process.

The approach to data analysis is primarily based on grounded theory and relies on the emic perspective for the “reading” of the data. In essence, these premises presuppose a determination for participant-relevant evidence concerning the interactions of the subject to the other activity components in order to distinguish important events that the learning-to-be-teacher can be traced back to.

Second, the methodology of decomposing the overall activity system (Mwanza, 2001) into smaller and “more manageable” triangles to generate questions is followed, in order to investigate the role of the mediating factors i.e., tools, rules, and division of labour in the overall process, in the development of the activities.

Third, the analysis takes up Membership Categorization Analysis (Sacks, 1992; Dooly, 2009) to give an account of the “doing-being a teacher”, according to the participants and their own words.
One feature of the ideal classroom is equal treatment of students by their teacher; whoever the students may be. However, achieving that ideal may be more of a dream than a reality. In many parts of the world social classroom rules have been found to discriminate against students on the basis of their gender; for example, Kitetu (1998), Sunderland (1994), Tannen (1993). It is the purpose of this study to extend this gender-based research into to the ESL classroom, by exploring some English teachers’ experiences and expectations based on gender identities from some Bachilleratos in rural communities in central Mexico; to determine whether in fact, findings in other contexts may be applicable in this country.

The general purpose of this study is to explore seven teachers’ sociocultural perceptions towards gender differences. Specifically this investigation attempts to analyze and categorize teachers’ lexicogrammatical resources, using as an analytical tool; SFL (Halliday, 1994); from a critical social view (Fairclough, Graham, Lemke, , Wodak, 2004). Specifically, the following questions were sought to be answered:

Do teachers at these communities perceive social gender differences?
Do they experience gendered sociocultural expectations? If so, what lexicogrammatical resources do they use to modulate/ modalize and mark them? And how do they express their appraisal towards them (based on judgmental- Appraisal Theory categorizations)?

Educational diversity as well as interactional processes comprises evidently biological differences, but also not so evident different social roles. Taking specifically the female/male dyad; the difference captures the following: We are not equal, biologically; however, because of that we acquire different social rights. We (teachers) must certainly treat our students under the same standards within the classroom, but do we consider their social roles out of them, and must we? Can either way be called “equity”?

According to Swann (1992), concerns about gender inequalities in education often focus on educational outcomes. However, as she alleges, interest in language among educationists should be on language as a form of social practice, that includes social values, and the ideas attached to being male or female in a culture, which may promote change or equal opportunities for men and women, gender stereotypes, and what we teach as well as how.

Additionally, Sunderland (1994) claims that the cultural perspectives of teachers and learners differ significantly and that studying the link between culture and language might be a starting point to examine how worldviews affect language and language use. Even more critical is Hayes &
Flannery’s view (2000) when they affirm that education is sexist, racist and classist. Even when their claim might seem too radical, all we have to do is to look at education in the same country under the same standards; then this claim might seem more evident.

A particular purpose of this theoretical framework is to state that our lexicogrammatical choices entail absolutely contextualized views of gender differences. These views may also be described in terms of gendered sociocultural expectations. The foregoing rationale marks the contribution of this study, as Fairclough et. al. (2004) state, “in many fields, researchers have developed more systematic frameworks to analyze research material and data, turning to more developed structures for discourse analysis, including critical discourse analysis, as well as conversation analysis and discursive psychology” (ibid, p.3). Especially for this research, one of those systematic frameworks will be used; namely SFL (Modality, Deixis, Appraisal Theory) to explore and classify participants’ lexicogrammatical resources towards their experiences, perceptions and expectations towards gender issues.

Taking into account the previous quote, speakers grammatical resources will be described on the basis of SFL (Modality and Deixis) (Halliday, 1994); and Appraisal theory (The Judgmental subsystem of the attitude domain) (Martin and Rose, 2003, White 2005).

Findings in this investigation suggest that it is situational social and cultural practices which seem to take gender stereotypes to expect and probably consent some disadvantages; both for male and female students. Concerning the specific lexicogrammatical resources teachers used to judge social behavior; participants’s most commonly used epithets to describe female students were “dedicadas” (dedicted/commited), y “responsables” (responsible), but only one of the participants used the epithet “inteligente” (intelligent), and it was to describe a male student.

In general, findings might seem a contradiction. Concerning teachers’ perceptions towards gender; their answers suggest that even when most of them recognize women to be more responsible, dedicated and committed to school concerns, it is also women who are less likely to succeed when studying higher education. Their answers clearly illustrate a contradiction; in the sense that they say they perceive something but in “real life”, as they say, something else is revealed.

Gender differences have been found to be general ones. Therefore claims presented here guarantee variation. The relevance of this study resides in the lexicogrammatical choices teachers use to express gendered expectations with respect to this social and cultural situational context.
Enhancing awareness of how teacher education might support practice in schools

Thuridur Jóhannsdóttir

Education systems have been facing problems regarding a lack of qualified teachers in schools, the quality of teaching in schools and the quality of teacher education (Scwille & Dembélé, 2007). Using new technology alternative teacher education has addressed these problems (Perraton, Creed, and Robinson, 2002) through open and distance learning (ODL). This new form of teacher education has highlighted the need for university education to be better connected to practice in schools. This raises the questions dealt with in the paper:

- How can teacher education departments enhance their awareness of the kind of support practitioners in schools need for developing their practice in response to ongoing societal changes?
- How would the departments need to develop their own practice in response?

The purpose of this paper is to argue that methods developed within cultural-historical activity theory, especially contradiction analysis as proposed in expansive learning theory (Engeström, 1987 and later), might be used for a better understanding of the need state of schools developing their practice and of the theoretical knowledge universities need in order to stimulate development.

Data and methods

The argument in the paper is built on ethnographic case-studies of three teachers in three schools in rural Iceland where student teachers enrolled in a school-based distance teacher education programme were situated. The schools were visited during the years 2003-2005 for the ethnographic work where data was generated by observing and interviewing. The triangle model of the activity system was then used to organize the descriptions of the three cases from the perspective of student teacher as subjects situated in the activity systems of their schools, each with systemic affordances and constraints. The expansive learning cycle was then used for directing analysis of their developmental processes in interaction with school development in the respective school.

The expansive learning cycle presumes that development is understood in terms of practitioners overcoming disturbances, tensions, dilemmas or conflicts caused by contradictions arising when effects of societal changes intrude in activity systems. In analysing the descriptions, different kinds of disturbances are identified and the contradictions causing them, as well as the way student teachers draw on different mediators as second stimulations (Vygotsky 1978, Engeström, 2007) for overcoming double bind situations or dilemmas. The role of the distance programme is regarded as a second stimulation for the student teachers learning to be teachers while teaching in schools. The
analysis makes it possible to reveal the zone of proximal development in each of the schools and suggest possible second stimulations for developmental work.

Results

The three cases analysed for the study are all different. Sam was based in a small village school, with 30 pupils and multi-grade classes, immigrant workers in the village resulting in multiethnic school classes, and up to five different ethnic origins in Sam’s class of three age grades. Sam recognized the problems he and the school as an institution would have to confront in response to changes in the kind of pupils as well as parents but was unable to do anything about it. He and the school staff as a collective were in a double bind situation; their practice was characterized by defensive cycles since they did nothing although they knew it was needed.

Sarah was teaching in primary level in Coastline School with around 150 pupils. The model of one teacher responsible for a class of one age group was the norm. Sarah had earlier worked as a classroom aide in another school from where she brought ideas that made her question the school practice in Coastline. She was able to change her practice within the classroom by using her agency as the class teacher while drawing on former experiences as well as the enrolment in the distance teacher education programme as second stimulations. However Sarah’s practice did not affect the school on a system level and a rupture was identified in the expansive learning cycle because of tertiary contradictions between the developed practice of Sarah and practice in general. Principals had recognized the need for change but had not managed although there were some attempts. The school was in a double bind situation and needed second stimulation to support it in developmental work.

Lilith taught in Waterside School, a rather big school of 500 pupils where each age group was divided into three classes. The school was characterized by a collaborative and supportive atmosphere and collective responsibility for the school practice. Thus Lilith was learning to be teacher as a part of a collective and in terms of the expansive learning cycle she could draw on affordances in the school and bring in second stimulations from the teacher education programme. Both Lilith and the school were responding to societal changes by developed practice. Here a rupture in the expansive learning cycle was found in a lack of co-configuration between the school and the teacher education programme.

Discussion and conclusion

This use of the expansive learning cycle for analysing the learning trajectories of these student teachers situated in their schools reveals how dependent their learning is on organizational
characteristics of the schools; i.e. the interdependence of individual development and school development. Sam and his colleagues needed stimulation for overcoming secondary contradictions between changed object of activity and conventional, mediating tools. Coastline School needed stimulation for overcoming tertiary contradictions in developing practice on a whole school level. Waterside School tensions were caused by quaternary contradictions between the teacher education programme and the school and a negotiation for coordination between the systems would be needed.

Teacher educators could listen to these messages and use them for becoming more alert to the voices of practitioners in schools, in turn developing their own practice to meet those needs by expanding their object e.g. by including collective, system level development along with individual learning.
School as a Space for Young People

The theoretical reflections presented in this paper are based on a line of research on “School as a space for young people” that I have developed with my students at the master’s and doctoral level. We rediscovered in research based on qualitative observation and interviews that school is above all a space for youth life: for encounters among peers, close friends, and boyfriends/girlfriends. Yet these encounters are not simply for fun: through participation in different practices and conversations about them, young people learn from their experiences and form their identities. We hope that this focus will contribute to studies on youth and students.

Studies on Youth Cultures

To understand young people’s place at school, we directed our attention to studies on young people. In such studies they appear as members of gangs or youth cultures. Willis (1977) underlined the resistance of working-class youth to hegemonic culture. Subsequent studies overcame the notion of youth culture as subordinate and instead present young people as agents in the creation of new cultural styles, expressed above all in music and aesthetics. This notion replaced the psychological concept of adolescents as growing or maturing individuals. (Feixa 2005, Reguillo 2000) But by treating young people as quasi-adults living in their own figured worlds, these studies have lost the notion of the construction of identities (gradual and changing) as a process.

Beyond Socialization and Sociability

Studies on young people in their condition as students have viewed them primarily from the concept of socialization: the internalization of norms. School itself is conceived as a transmitter of society’s norms to future generations, although school as an institution seems to be in decline (Dubet 2002). Youth life also has been viewed from the concept of socialization. Lynd (1929), Linton (1942) and Coleman (1961) proposed in their time that adolescents and young people have a separate world from adults, and that they create their own values, rules, and hierarchies. Current studies on young people—on “urban tribes”—are influenced by the concept of “sociality” developed by Maffesoli (1990), who postulates that our society is not entirely modern, rational, and civilized and that micro-groups or tribes emerge. Instead of socialization, we should emphasize “sociality”. This concept returns to the concept of “sociability” by Simmel (1917), who emphasizes
the enjoyment and playfulness of being together. Maffesoli adds the notion of festive excesses by Nietzsche.

We can agree with Maffesoli that young people spend a large part of their everyday life in group relations of a playful and emotional type: to “vibrate together”. But their youthful life is not limited to this aspect. Socialization (as interiorization of norms), sociability, and subjectivisation (as personal distance to norms) are intertwining processes in the construction of identity.

*The Construction of Identities*

The construction of identity, both social and personal is an important matter in youth. The studies by Holland, Lachicotte, Skinner and Cain (1998) represent an important contribution to the discussion of identity in “figured worlds”. They analyze the practices in which individuals participate and the way they talk about themselves, emphasizing agency and improvisation. One of our studies (Valle y Weiss, 2010) shows the figured world of graffiti artists and the construction of a virtual identity in that world thanks to the use of a pseudonym or tag. Many of them are also students, some are involved for a time and then abandon graffiti. They live in various figured worlds (see also Lahire, 2005, on the plural actor). Thus decision and reflection hold importance: Should I dedicate most of my time to graffiti, to my girlfriend, or to school?

*Authoring of Self and Subjectivization*

Based on their participation in practices within various settings (the family, teachers, peer groups, close friends, boyfriend/girlfriend), young people create a “bricolage” or “orchestration” of various identities. The formation of personal identity is a process of appropriating identity resources and shared references. But it also requires a self, the ability to reflect on distinct demands of “generalized others” and to position myself with regard to these demands (G.H Mead). Holland et al. consider subjectivity as development in the interface of the social and the self, incarnate in the individual, as in the authoring of self. This authoring of self and subjectivisation implies a process.

“Others” are fundamental in this process: not so much “others” from whom I am distinct (who prevail in studies on youth cultures), but “others” with whom I converse, including my best friend to whom I can tell everything about me. These conversations are important moments of reflection. This dialogue also occurs as talk with “voices” (Bakhtin) of friends and parents in the mind and becomes observable in narratives about reflective processes.

For young people, school is the ideal place to meet the other gender, in a wide variety of experiences of love and sexuality that students comment on with their friends. From a perspective of dialogue and hermeneutics (Gadamer, Ricoeur, Melucci, Bajtin), knowing the other gender (or
the same gender) permits better knowledge of oneself (Hernández 2008).
In these experiences, as well as in many others, young people explore and construct their identifications. They experiment and often run risks, especially in unprotected sexual activities and the consumption of alcohol (Hernández). In all life settings, young people explore different ways of acting and being. They are model students in elementary school, negligent students in secondary school, and strategists in high school; fans of certain musical styles and then others; loyal friends who seek new companions more in accordance with their new interests; faithful girlfriends/boyfriends who change mates. But they also become more “mature”, as they proclaim.

Conclusions
The conclusions emphasize the importance of subjectivization, viewed as a process in which experience, experimentation, and reflection through dialogue are central. The orchestration of personal identities is a process of appropriating the resources of identity and shared references, yet it is also the reflective learning of experience (Hernández 2008).
Conceptions of pedagogical Mediation of the Teachers from the elementary and High School of the State of São Paulo/Brazil

Maria Guiomar Carneiro Tomazello - Michelle Oliveira da Cunha

Data of Assessment System of Educational Achievement of State of São Paulo/SARESP indicate that the performance of students in 3rd year of high school in the area of mathematics is lower than expected for the eighth grade of elementary school. This means that the high school has added little to the repertoire brought by the students from elementary school. The causes of failure of the students are complex and can’t be attributed only to the performance of teachers, but certainly go through what happens in the classroom. This work is a part of a larger research (which has the propositions of Vygotsky as theoretical studies) conducted with the support from the Research Funding Agency of State of São Paulo/FAPESP (process 2009/54874-6) on the mediating role of the teacher, developed from a historical-cultural approach, which seeks to understand the phenomena from their historical events, relations between subjects, in which the individual is always part of a whole. The mediation of the teacher will be realized between the knowledge that the student already has and the socially accumulated knowledge, abstract and new to him, therefore, essential to the teachers know the previous thought of the students to work with new concepts, difficult to be exemplified with objects, facts and/or phenomena of everyday life. Thus the mediation can’t be restricted to the teacher-student relationships, but to be understood in formation of the development of higher psychological functions. The understanding of what will be pedagogical mediation is only implicit in the pedagogical work of teachers, so is necessary to know, initially, their concepts on the subject. The objective of the work (in this first phase of the research) was to investigate the concept of mediation by part of the teachers (majority from the areas of natural sciences and mathematics) from public elementary and high schools of Piracicaba and region. The research of qualitative aspect was conducted through questionnaires and interviews with questions about mediation. After allowed by the school directors, 67 teachers responded to the questions writing the answers or were interviewed.

A questionnaire was applied to the following questions: 1) For you, what is to be a teacher "mediator"?; 2) How do you judge what makes mediation in your daily work in the classroom? Give an example of one (or more) situation experienced by you in the classroom in which you acted as a mediator of learning of student(s); 3) Is there anything else you want to add on the mediation process in the classroom.

The answers were transcribed, categorized and analyzed in order to know the conceptions of
mediation of the teachers. The results indicate that the 67 teachers presented, in most cases, a concept of mediation that approaches to its etymological sense: that of being “between”, in the interior of the relationship between subject and object.

The data summarize the responses of teachers and their respective categories (in percentage). It is worth remembering that some teachers had their answers categorized in more than one category. 1) Mediation of the teacher as facilitator of the construction of new knowledge (43%), 2) mediation of the teacher as a bridge between common sense and science (42%), 3) mediation of the teacher as a methodology of their pedagogic practice (33%) 4) mediation of the teacher as give the direction of knowledge (15%), 5) mediation of the teacher as transmitter of knowledge (12%), 6) Mediation of the teacher as conciliator of conflicts (4%).

Illustratively highlight presented some phrases of the teachers on mediation.

Facilitator: "It is the facilitator of student learning, helps students to interpret questionnaires, tables, even ordinary things of daily life."

Bridge: “It is who mediates between the student and knowledge, the teacher as a bridge, as a link.”

Methodology: "I try to decentralize the actions, activities and encourage student participation in projects and work in teams, managing the knowledge. These are important strategies for the mediation student-teacher-knowledge in the classroom, make effective pedagogical practices."

Director: "It is when the student interacts, ie when the student really participates in the class. For me this is the teacher mediator, the teacher shows to the student the paths to be followed”.

Transmitter: "It is one that passes information to train the student”

Conciliatory: "It is who will mediate the knowledge and conflicts. The conflicts: through the dialogue and limits”.

Of the 67 teachers interviewed only six of them make reference to the prior knowledge of the students but do not make clear how they deal with such knowledge as we can observe in the following speech: "When I explained a certain subject, I exchange ideas with students to check their previous knowledge."

It seems more like a form of dialogue with the students than having to establish the basis for mediation between the prior and new knowledge, or recognize what students can accomplish without help and who can not. Some teachers are in contradiction in the answers because they define themselves a teacher facilitator and mention contradictory examples in their teaching practices. That means, as the mediation assume different aspects, often the teacher does not mediate properly in the classroom, he is only a transmitter of information, leaving aside how occurs the processes of the construction of the knowledge by the students. And in other cases, the contrary occurs. In determined situations the teacher is acting as a mediator in the classroom, but do not even
realize his fundamental role in the development of abstract ideas and concepts that will become possible with the mediation. The results drive us to the initial and continued formation of the teachers, because the understanding of the concept of mediation in its amplitude and the consequences on teaching and learning requires a theoretical discussion necessary in the teaching degree courses.
173. Playing computer games: consumption versus production

Alan Amory - Ann Mackenzie

This research uses activity theory as a heuristic to identify theoretical positions and practical approaches to support game-based learning. In the early 1930’s Mead recognised that role play is an important part in developing the child’s sense of self and relationships with others. Piaget later argued that play is important in the development of the child’s abstract thinking and representation. For Vygotsky, play is the most significant activity of early childhood and has two characteristics: imagination and rules. During free-play rules are invented by the child during imaginary play. In game play the rules are overt, and the more complex the game, the more the rules dictate over the imaginary situation. It is the interplay between imagination and rules that helps to create the zone of proximal development. Holzman argues that play is part of development when it is a rule-and-result activity, rather than a rule-for-result activity. Bruner posits that play is a superb medium for exploration, allows for invention, is not by chance or random, and is more pleasurable when obstacles are encountered and overcome. Additionally, he showed that play supports cognitive development when the child constructs something and an adult is present to provide a supportive environment and to offer reassurances and information. Bruner suggests that playing alone leads to boredom and paying in groups greater that two becomes a distraction. Through play, Bruner argues, we transform the world according to our desires but when we are learning we transform ourselves to better conform to the structures of the world.

Engeström’s activity theory provides us with a heuristic to explore the relationships between play, video games and learning. In particular, the consumption and production systems are important to game-based learning. The consumption subsystem describes how the actors that are part of a community collaborate to use the object – the game. The production subsystem involves how actors interact with tools, culture and other artefacts (the computer game) to transform the object. Hence, when we learn to conform to the structures of the world the consumption subsystem is the dominant component. The production subsystem is dominant when we play to transform the world according to our desires. Likewise, rule-for-result activity could be allied to the consumption subsystem and rule-and-result activity associated with the production system. Therefore, computer video games support learning when they are part of the production subsystem (tool mediation). When video games are the object of the activity they are part of the consumption subsystem and are concerned with transformations that lead to confirmation of existing systems. Therefore, play activity associated with production leads to individual transformation, and play associated with
consumption is concerned with replication.

In this paper we investigate the use of computer video games and associated artefacts as the object of the activity (a learning from technology perspective) and as tools to mediate knowledge construction (a learning with technology perspective).

The predominant use game-based learning is related to consumption: single players are faced with challenges and ever more complicated rules to reach predetermined goals. Many of these video games glorify gratuitous violence and support anti-social behaviours. Video games often include hierarchies based on power, masculine views of economic competition, racism and sexism. Such games replicate existing hegemonic power systems. However, our work on the use of authentic puzzles embedded in adventure games specifically designed for educational settings illustrates the power of tool-mediated social knowledge construction.

A number of educational video games were designed and include puzzles that address misunderstandings and misconceptions related to evolution, diseases (HIV/AIDS, cancer, tuberculosis and malaria) and Mendelian genetics. Our studies include secondary students from a rural school in northern KwaZulu-Natal who played the evolution game; orphaned young adults from Soweto and third year undergraduate Educational students who played the game on HIV/AIDS, cancer, malaria and tuberculosis; and biology graduates studying for their teaching qualification who played the game related to misconceptions of Mendelian genetics.

Students from the secondary school in northern KwaZulu-Natal played the game either individually or in pairs. Those playing in pairs were encouraged to discuss possible solutions with each other and could ask for general information from the facilitator. While most of the participants completed all the game puzzles, only those students who played in pairs improved their understanding of evolution. Orphaned young Sowetans and undergraduate trainer-teachers played the game on the biology of important diseases. The young Sowetans played in groups of three or four participants with facilitator support. All participants completed the game except those who insisted on playing on their own. Participants increased their knowledge on the diseases and thought that they better understood the biology of HIV/AIDS. As part of their professional development studies third year trainer teachers played the same game in pairs where they were asked to identify the object of the activity. Most of these participants understood that the puzzles functioned as the tools that mediate knowledge construction. Graduate students studying for their teaching certificate overcame many of
their misconceptions related to Mendelian genetics when they played the game in group of at least two members in an environment supported by facilitators.

Research of the role of these games in learning supports Bruner’s arguments that meaningful learning took place when two participants played together and discussed ways in which to solve the game puzzles, a facilitator was available to provide a supported environment and to provide support when needed, and participants were able to articulate the object of the activity that was not the game play. The puzzles therefore functioned as tools and provided a means to move the zone of proximal development. It is neither the design, nor the content of the game, that is important. It is the way in which these cultural artefacts are used in the classroom that is important. Individual and collective ideologies are always part of any cultural product. The consumption of cultural products therefore replicates existing systems. However, the use of cultural products to mediate individual transformation leads to production of critical insight into the world and us.
This paper will present research in a national programme (2006–2015) with the objective to enhance ICT in teacher education. The research focuses preconditions for development work in a programme to be sustainable. Preconditions for a sustainable development work on different levels and between organizations in a programme will be analyzed in the framework of Yrjö Engeström’s expansive cycle.

At different levels the education system strives to implement new technology and change teaching practice. Scholars regard information technology (ICT) as an important tool to change teaching practice but implementation of ICT in higher education does not significantly affect the teaching practice. How more ICT in higher education can be achieved is debated but for a change to comprise not only skills but more extensive changes in teaching practice the overall social and cultural context of university teaching practices have to be transformed.

A Swedish government policy document recognizes Teacher education as a crucial arena to enhance ICT in the education system. The policy document implies that ICT will be a general perspective in teacher education and that the changes made will be sustainable. This is not an easy task, since changes made in organizations seldom are sustained. A backlash to status quo is not uncommon.

When a new artifact as information technology is introduced, the work place has to change its practice in order to make use of the new artifact. This requires a collective development of the work place itself, innovative learning cycles. Many small cycles of innovative learning can be potentially expansive and change practice.

Sustainable change in practice in an organization can be obtained by sustainable development work. This means that the results and work methods deriving from the change work are continuously developed and that the resources to do so are regenerated. A methodology to sustain sustainable development work is discussed by Docherty et al. (2009) in the framework of Sustainable work system design (SWS). It is in a SWS perspective beneficial for the development work if representatives of the funder’s organization and other stakeholders that have power to take care of the results of the development work can participate. The owners of the development work have interests beyond the direct result of development work and therefore can take action on issues related to sustainability. SWS require active engagement at all levels during all phases of the
A large Swedish foundation, funded many development projects in comprehensive schools at the end of the 20th century and the beginning of the 21st century. The sustainability of these ventures has been questioned. In the light of the network society and the questioned sustainability of the foundation decided to change their strategy. Instead of funding projects in comprehensive schools they decided to launch a large scale national programme in Swedish teacher education (2006–2015). Within the foundation's own organization new ideas on assessment of learning and how ventures can become sustainable had developed out of experiences of prior ventures. The new ideas came to influence the design of the new programme. The strategy behind this national programme was based on an organizational, inter organizational and institutional approach. The aim was to enhance ICT in teacher education and that the changes should be sustainable.

The programme began with three projects in a first venture (2006–2010) and entailed eight universities in total. Data in the programme has been collected across different sources mainly by the author. It consists of audio taped semi-structured interviews, notes taken at meetings, audio recordings and written documentation from analysis seminars, observations, programme and project documents and surveys. The main part of data is semi-structured thematic interviews collected in two projects that are part of the programme. The projects were similarly initiated and the development work has been disrupted by external breaks that have had impact on teacher education.

The research has had an interactive approach with a purpose create knowledge which is useful for developing the projects and to develop theory. The research project involved those directly involved in the development work on all levels in the programme, representatives from the organization of the funder, the project management and staff at the hosting universities, vocational training schools, and external partners. Collected data have been analysed at Analysis seminars. The seminars are organized learning events that aim for a critical learning process with a democratic orientation. The objective is to create a reflective community that includes those working in the projects, the researchers, the funder and external stakeholders.

The third generation of activity theory has a system perspective on learning that includes both individual learning and collective learning in and between organizations. Internal contradictions in an activity system and between activity systems provide opportunities for learning – expansive learning. Expansive learning is a major change in practice and takes places when present practice becomes incompatible with new needs and when practice is challenged by joint reflection which leads to new solutions. Yrjö Engeström has developed an analytical model for analyzing expansive learning, an expansive cycle. The five phases of the expansive cycle depicts a dialectical process of an activity system that expands its object of activity. The change efforts in the development work
can be disrupted by breaks. Breaks of the change effort can be due to a critical event, an eternal shock or more modest stops of the development work.
Preconditions for a sustainable development work in a programme will in this article be analyzed in the framework of the expansive cycle. The study shows that important preconditions for a sustainable development work are an active and open involvement of the stakeholder, active ownership of the projects, vertical and horizontal learning and a project management that are prepared to bridge breaks that punctuate the development work.
The education of the children of parents who are (im)migrant is fraught with tensions (Arzubiaga, Noguerón, Sullivan, 2008). For children in immigrant families preschool is one of the first institutional core to contact zones (Hermans, 2001) where struggles such as the one between creating national identity and fostering differences is enacted. I make use of the notion of core to contact zone – cultural middle to cultural peripheries - to make visible conflict and contradiction within and across activity systems. In this manner, the competing discourses within and across institutions, such as preschool and the family, were made evident. For example, families new to the context of reception, did not necessarily conform to preschool institutions’ prime mechanism of imprinting to the new generations the values of the old.

Conceptualizing preschool as a contact zone, I focused on teachers and parents’ participation during meetings about the preschool education of immigrant children. The meetings were part of the Children Crossing Borders (CCB) studies. During focus groups, parents’ and teachers’ words revealed identity constructions embedded in multiple dialogical positions. From a third generation activity theory perspective, people are a part of multiple activity systems and the relations among and contradictions that exist between activity systems are central to the analysis of human activity (Gutierrez & Arzubiaga, in press). In this sense, participants’ identity labor/work was represented in competing narratives and counter narratives which made visible the relations between the collective and the individual, and the collective within the individual (Smolka, 1995).

In the CCB study, the object/motive of our work was to bring together the voices of stakeholders, including parents and teachers, to the discourses on the early education of immigrant children. The study drew from a multi-sited ethnographic approach study in five countries. The five countries included France, Germany, Italy, United Kingdom, and the United States. The five countries are post-industrial nations that have recently experienced a surge in their immigrant population. The core method for data collection was the use of video to stimulate reflection and discussion. The method developed by Tobin for Preschool in Three Cultures: Japan, China, and the United States (1989) makes use of video as cue to stimulate a polyvocal and polypositional conversation. We adapted this method for our study of how preschool programs in Europe and the US work with children of im/migrants.

The method involved the production of a videotape of a day in a preschool, which had a sizable number of immigrant children, in each of the five countries. After we edited the tape down to 20 minutes, we showed the edited tape to the classroom teacher and asked her to explain her practices.
Following the meetings with the teachers, we conducted focus-group discussions of the tape with other staff at the preschool and the other teachers at the school. We asked them to comment on the typicality and meaning of the scenes in the video. Next we met with the parents, of the children on the videotapes, with whom we held focus groups. We also held focus group discussions with staff of other preschools around the country and in each country in five sites that had very different demographics and immigration contexts. Sites included public and private preschools housed in elementary schools, refugee organizations and religious communities. Next we transcribed, translated and coded the focus group discussions. I used both content analysis and interpretive methods borrowed from literary studies, discourse analysis, and structural anthropology to make visible conflict and contradiction within and across activity systems.

In the United States, for example, such conflicts and contradictions were manifest in actions and discourses which supported equity, while at the same time, racializing, criminalizing, and dividing communities. The words held remnants from colonialism, oppressive regimes, strife, and migrations. Teachers, at times, aware of their contradictions, would explain how despite their awareness they would still engage in actions against their beliefs in equity. Parents, who were immigrants, were also aware of their own contradictions, in regard to embracing the United States, and described themselves and their children as in a neither here nor there position.

Despite the difficulties inherent in such conflicts and contradictions the practical applications of this study is to bring these to cultural negotiations between parents and teachers. When identity is conceptualized within societal relations and the actions related to such relations, teachers’ and parents’ identity work can be understood as always under construction. Further, when identity is considered the ensemble of societal relations the unit of analysis of identity needs to encompass the mediations that lead to the enactment and construction of identities (Roth, 2007). Naming and explaining conflicts and contradictions through negotiations has the potential to challenge reified identity constructions since identities are the realization of a cultural possibility.

References
Littlefield.


181. Dialogues and challenging experiences - making invisible issues visible

Fia Andersson

Background

This paper aims at describing and analysing the process and content in a study conducted within the tradition of participatory-oriented research (cf. Reason and Bradbury, 2001) - a research-circle (Andersson, 2007). The research-circle can be described as an arena where researchers and practitioners meet using their respective knowledge and competence to jointly tackle problems of mutual interest. Conversation has a central position in the research-circle, and the dialogues play a significant role for both the individual’s acquisition of knowledge and that of the group as a whole. The dialogues in a research-circle could be described as polyphonic conversations (cf. Bakhtin, 1981).

Reciprocity and recognition of others as being equally valuable members of the research circle, and the recognition of one’s own experiences vis à vis the critical scrutiny of others, as well as change, challenge and empowerment, are essential notions within participatory-action research. The construction of knowledge evolves from the clash between participant experience and the critical scrutiny of theoretical analyses.

Method

Participants in the study were seven teachers working with multilingual children diagnosed within the autism spectrum. The main research issue was: how could researchers and teachers together develop knowledge and understanding within the area of multiculturalism and autism. And what do these teachers have to handle in their everyday work. The research-circle was carried out with twelve meetings during a period of 16 months.

Experiences from practice, and current research, were discussed in continuing dialogues and in ongoing processes with time for reflection between the meetings. New perspectives highlighted the same question but in different ways. In the final meeting transcribed dialogues were analysed together by all participants and the researcher.

Outcomes

The initial issues mainly focused on different problems of common interest related to communication and language acquisition according to children diagnosed within the autism spectrum. Mother tongue instruction and study guidance were not discussed in several schools. And some participants’ and schools revealed an attitude of doubtfulness as to whether mother tongue
instruction and study guidance played a significant role for children with autism-spectrum problems, and in particular for non-articulate children. The participants emphasized the fact that once a child is diagnosed within the autism spectrum the diagnosis “takes over”.

The outcomes of the research circle gives reason to envisage a risk scenario if a child, of foreign background and faced with several languages to handle, is diagnosed with autism before her/his grasp of Swedish is adequate and before adequate skills are acquired.

When experiences from the participants were challenged, potentials for different actions were revealed, e.g. consciousness (cf. Freire, 1972) that hierarchical traditions and societal structures influenced educational situations. Thus knowledge meetings with dialogues, and collaboration between parents, teachers, and the various authorities were suggested.

Challenging each others experiences turned out to make invisible issues visible

Educators whose voices are commonly not heard, be it in the area of research or within the school world, have been brought forth and have become visible through the work of the research-circle. Knowledge acquired throughout the process signifies that something new, something that could not have been formed solely through practice or through research, has been created. Those issues that were investigated by the research-circle group have grown out of matters of importance in the everyday work of the participants. They relate all the way from individual questions and relevant problems in everyday work to insight about larger issues in a wider perspective for society as a whole. These issues have moved beyond the needs of the individual and built a base for increased understanding within society. They have also armed the participants with a certain amount of strength and readiness for their continued professional life. This is in line with what Negt (1987) emphasizes as being a decisive ingredient in the adult learning process. Emancipating collective knowledge was transcending what any participant had from the start. Finally the participants stated they had to fight for their voices to be heard in order to put emphasis on their knowledge on children’s learning potentials.

References:


Introduction

This paper is concerned with leadership in service organizations. During the 20th century, leadership has been studied and defined in a variety of ways (Yukl, 1989, 2006). Most definitions of leadership involve actions taken by leaders to exercise influence upon others (followers) and to mobilize people towards compliance in task behavior and enthusiastic commitment to change (Yukl, 1989; Heifetz & Linsky, 2002; Heifetz et al., 2009). Managers and leaders are increasingly confronted by conditions that demand changes in technical tasks or methods or even more radical adaptive transformation of an activity.

Heifetz & Linsky (2002) propose a distinction between technical leadership and adaptive leadership. Technical leadership is more in line with routine management where current know-how is applied to solve technical problems. Technical problems may be very complex and critically important but they have known solutions that can be implemented. Adaptive challenges arise where traditional way of constructing and working in the work-place is transcended. The manager as a leader, and even middle managers are primal actors in mobilizing people and systems to tackle adaptive challenges like transformation or expansion of the work-place.

The paper presents a study of the leader and leadership as an activity system in relation to transformation of a work place. The aim is to create knowledge about the driving forces behind developmental work in traditional services. This is done by analyzing leadership in the light of and through the lens of cultural-historical activity theory. The managers as leaders (and middle managers) are a central unit of analysis as an activity system in interaction with other activity systems outside and inside the organization. Leaders’ actions and the tensions and disturbances on the road to new and transformed work organization are analyzed through the lens of expansive learning cycle model (Engeström, 1987). The analysis draws on two cases of developmental work in traditional service sectors, a nursing home for elderly people and a primary school.

CHAT as a theoretical framework

The theoretical framework primarily guiding the study presented here is the third generation of cultural-historical activity theory (CHAT). According to Blackler (2009) this theoretical paradigm, CHAT, has in recent years received some attention in the field of organizational studies, but
remains poorly understood. Within the field of Management and Leadership studies of changes in organizations CHAT as a paradigm is still a specialized, marginal area of interest. Blackler (2009) discusses the significant contribution of using Engeström's cultural-historical activity theory as the research paradigm. Primarily he sees this as the choice of an activity system as a more realistic core unit of analysis instead of the abstract organization and goal-directed actions. Engeström’s emphasis on the object of the activity as the primal issue and also his emphasis on learning as a collective process is significant in the context of developmental change research. Engeström & Miettinen (1999) argue that the analyst is constructing the activity system as if looking at it from above. This increases the possibility of taking into the account the whole spectrum and interaction; the object(s), the actors, the tool- and the social mediation, the history and the “neighbor” activity systems.

The object-orientedness is the core of activity according to Engeström (1999). In an activity system the challenge is that the object as well as other elements of the system can and might change. New rules are adopted, new tools are developed and new members may enter the community. Most importantly the object of an activity has a life of its own and may continue to expand.

For the analysis of the sources or driving forces for change or transformation in the work-place the method of contradiction analysis embedded in Engeström’s expansive learning cycle model is used as an analytical tool. Engeström (1987; 1999; 2001; 2010) in his theory of expansive learning places emphasis on the contradictions and tensions within an activity system as the driving forces for change or development of work-organizations. It might be that a primary contradiction, arising from the tension between use value and exchange value, that can be found within an element of the activity system (e.g. the subject), calls for people’s intense debate in the work-place. This can be described as the need state or the first phase in the expansive learning process. This first phase or state might evolve into the second phase or the second stimulation which can be a double bind situation or more or less full-blown crisis where people can not continue as they used to. The double bind situation (caused by secondary contradiction) leads to an individual or collective search for solutions that may or may not bring about expanding or new objects. Contradictions might also develop when elements of a qualitatively new activity system collide with the remaining elements of the old system. This could happen during the period when the new activity system is first implemented. Yet another contradiction could arise between the activity system and its neighboring activity systems during a period when the neighboring activity system react to a transformed new activity system (Engeström, 1987).
The research design and data

The research design is based on the case study approach to inquiry, focusing on two cases belonging to traditional service sectors. The one is a nursing home for the elderly and the other is a primary school. In both the cases the organizations have used unconventional approaches and fit the definition for innovative activity. Data for the study in this paper was gathered by open and repeated interviews with the top managers of the two organizations. Middle managers were also interviewed as part of the management team with the role and responsibility of mobilizing people (the community of practice) and influencing and implementing the change process. In addition to the interviews field visits and participant observations were conducted and written documents were analyzed.

The research project on which this paper builds is work in progress. Therefore, the main findings and conclusions are not ready but will be presented in the conference paper.
City School operates a policy and pedagogy that is a part of a general policy in the Reykjavík Community that was developed to fit the needs of students and society in the 21st century (Óskarsdóttir, 2003). The main characteristics of the modern school according to this policy will be flexibility in all areas, in teaching methods, use of information and materials, use of space, organization of work and between school levels (ibid). The school has been ´the flagship´ of individualized learning and open organization in Icelandic compulsory schooling and as such receives many visits from teacher students, teachers and administrators in other schools. One of the obligatory subjects to be offered in compulsory schools in Iceland is ´woodwork´ but the school had not been successful in securing a skilled woodwork teacher partially because the school wants a teacher that adheres to their policy rather than focusing on strict handicraft policy. When four teachers in City School attended a course in innovation education they decided to offer IEE partially as a substitute for woodwork lessons. I followed the implementation of IEE in the school in 2006-2008 through observations, interviews and informal talks with staff and students.

Building on Leont’ev’s and El’konin’s ideas about dominant activities Sannino (2008) argues that non-dominant activities exist besides the dominant ones often leading to tensions between dominant and non-dominant activities. Changes from one dominant activity to another are referred to as ‘transitions’ where the former leading role is shed and diminishes and a new leading activity corresponding to a need arises and a new stage of development begins. Sannino concludes that dominant activities can become dysfunctional protective or constraining enclosures that may literally dominate development to the point of stagnation. She furthermore proposes the notion of transitional actions that move sideways, across boundaries, between dominant and non-dominant activities, with potentially long term significance.

I expected IEE to fall nicely into place within the open structure and organization of City School and be an addition that would strengthen its potential of expanding and enhancing its currently non-dominant pedagogy in Iceland. The analysis of data showed unexpected restrictions for IEE as traces of dominant traditional pedagogies appeared in the school itself and in IEE lessons. IEE activities in the school were isolated and competed with school work that was considered more
important than IEE in a competition for student time. The use of Positive Behaviour Support seems to contradict the general school policy of supporting the growth of independent and responsible students. It may be concluded that the activity system of the school operates as a dominant system towards IEE, exerting tension and conflict that can be used as a vehicle for development or IEE continued as an isolated activity system without allowing it to act as a catalyst through sidewise tranistion for enhancing further development of the activity system of the school.

**Tensions - conflicts - issues**

Issues causing tensions and conflicts concerning IEE detected in the data were: Competence and the role of the IEE teacher; time and stress; and spatial location and invisibility of IEE.

**Competence and the role of the IEE teacher**

The IEE teachers were arts and textile teachers and they generally felt they were up to teaching IEE but they were unsecure in one area as they lacked the skills and knowledge of woodwork and did not have access to such expertise wich they felt was necessary for teaching certain parts of IEE.

The role of the teacher in IEE is the role of a social constructivist teacher that takes into account the surroundings and situation of students and supports them in use of knowledge from life and school subjects through creative solving of real life problems. Teachers often feel they lose control over lessons when giving students more power over their learning as constructivist teaching requires. The four teachers balanced freedom and structure leaning often towards control and they sometimes fell `back` into the role of the controlling teacher as the students` `called` for such external control and received feedback either in scolding or in the form of PBS limiting the development of student agency, trust and independent work.

**Time and stress**

The time allocated for IEE was considered often too short to finish tasks properly. The lessons were often disrupted by students leaving for other lessons that they had to attend (swimming, music) thus shortening the time for IEE training and disturbing the rhythm of the work.

The time teachers had planned for collaboration on IEE development was often taken over for other meetings that took priority making the IEE teamwork punctuated and leaving little time for reflection. It was evident from the competition for the teachers` time, pressure and constant stimulus that they were working a demanding job and usually on top of that family life with demands and
duties of its own awaiting.

*Spatial location and in-visibility of IEE*

The new subject IEE was seen as taking the place of woodwork and thereby put into the old ‘mold’ of a special subject. IEE was also spatially isolated within the school as the lessons were located in a workshop room closed from the main teaching areas that were open and with flexible divisions of space. Processes and products of IEE lessons were not accessible for other teachers and staff as they were mainly located in the special room and artifacts displayed there.

*A way forward*

The experience from IEE in City School may be used to make the contradictions and tensions visible in order to develop activities in the school towards its main goals. Thus the influence that the school as a non-dominant structure exerts across its own borders into other Icelandic schools is more likely to develop into a new dominant school structure.
188. The wildfire – effect: The social aspect of learning to draw the seen

*Nina Scott Frisch*

The transfer from the informal to the formal arena of the seeing-drawing phenomenon labeled as the wildfire effect is the focus of this inquiry. The term “visually controlled drawing processes” is used to describe the drawing of models such as objects and others’ drawings and pictures, but also to describe the modeling of drawing behavior, the learning-by-looking how a drawing is made. The visually controlled drawing processes are interpreted within a socio-cultural theoretical framework using Greeno, 1989; Lave & Wenger, 1991; Rogoff, 1984; Scribner & Cole, 1972; Thompson, 2002; Wilson & Wilson, 1977, among others.

The results presented here are part of a qualitative comparative case study (Frisch, 2010) that has been carried out by using observations, interviews, video recorded re-drawings, collection of about 500 drawings made by 61 children, and questionnaires to answer the following research question: Are there connections between informal and formal visually controlled drawing, and if so, how can these drawing practices be understood?

Among a group of children, tables are covered with thick drawing paper to see if that would encourage spontaneous informal drawing processes without any form of verbal cues being given. The drawing processes show that one theme can spread like wildfire; one child after another copying or interpreting the other in their own drawing – based on seeing-drawing. We can interpret these drawing processes as graphic dialogues (Thompson, 2002; Wilson & Wilson, 1977); one student “answering” graphically the other; confirming their peers’ visual expressions by copying them. The social situatedness (Lave & Wenger, 1991) of visual expression is likely to be reflected
in the drawings. The drawing of the smoker show mutual inspiration and learning based on social and visual interaction (Cazden & John, 1971; Cohen, 1971; Mead, 1964; Reitan, 2007; Scribner & Cole, 1972; Thompson, 2002 and Wilson & Wilson, 1977), what Palmer (2007) labels a social “wildfire”. Here, it is labeled the wildfire effect traceable by the results of visually controlled modeling of each others’ drawings/drawing behaviors.

One could be inclined to interpret the drawings as demonstrating that smoking is cool, even though the dialogues (if there were any) were not registered. But the graphic traces are clear, the theme “the smoker” occurs in five slightly different versions, most likely drawn by five children, one taking after the other; the theme and drawing activity spreading like wildfire. The theme “the smokers” is also interesting. To draw an activity not allowed in school (or to draw where it is illegal), the rebellious and slightly “dangerous” theme is a feature of informal drawing found by other researchers within the graffiti-genre as well as in lavatory wall drawings (Hedegaard, 2008; Martins, 2008).

The next situation will show how the wildfire effect merge with the teacher’s teaching, and has an impact on the result of his teaching: The drawings.

From upper left: August, Amanda, Audrey and Betty’s drawings

In the drawings seen here, the girls are sitting beside each other or opposite one another at a group table of four students. The fourth student is a boy, August. One girl is starting to make the black outline around her still-life, the other girls then do the same, and this process is silent. The informal drawing strategy of looking at each other, using each other as models, copying features of each
other’s drawings fully or partly, is seen here in the formal setting. Even though the three girls have the 3D model, the ceramic still-life to look at, placed in the middle of the group table, they also look at each other’s 2D drawing and each other’s way of drawing.

This phenomenon is interpreted as expression of a “we”; the wildfire effect, and is found as an informal drawing learning strategy. August is not affected by the wild-fire among the girls, he continues to draw according to the assignment and in his own drawing style. The wildfire effect can be seen manifested when there are possible social relations to confirm, here the girls sitting and drawing together, confirming each other as a group (Scribner & Cole, 1972, Thompson, 2002, Wilson & Wilson, 1977).

So, even in formal drawing classes, while looking at a still-life, the informal “we” is manifested through the wildfire effect as a drawing strategy, and as result of having access to each others’ drawings. Without socio-cultural theoretical glasses, these important social aspects of visually controlled drawing in formal teaching and learning would not necessarily have been seen. The need for a functional vocabulary for the findings has been part of the research project; the use of the concept the wildfire effect (Hannula, Suoranta & Vadén, 2005; Engeström, 2004).

The informal wildfire effect is seen as a transfer from the informal to the formal arena when this phenomenon occurs when making for example the still-lifes. These transfers are promising findings for further elaboration on the content of visually controlled drawing in art education, as long as the transfers are experienced by the students as meaningful. Transfers from one context to the next take place, according to Greeno (1989), when they are experienced as meaningful and when there is a sense of recognizability across contexts, as here – drawing the same still-life in a group.

Recommendations would then be to take actively into use the wildfire effect in formal teaching of visually controlled drawing by arranging for teaching in groups with a common model – and placing the students so that these processes are encouraged.
The twenty-first century offers us a great opportunity and formative challenge: educate our young citizens for a rapidly changing world where knowing is not enough; this reality must be confronted in a creative-collaborative way that emphasizes the transformative power that lies within every person to give shape to the world. In a global context where the old relations of east-west/north-south are crumbling at their foundations, in which Brazil is emerging as a political and economic power on the world stage rather than a third world country, how can today’s youth face this new world order that cannot be addressed within any paradigm that currently exists? The answer is approaching education from a transformative-activist perspective (Stetsenko, 2009).

By structuring a school curriculum based on activity theory (Vygotsky, 2001; Leontiev, 1977; Engestrom, 1999), the possibility for students to make concrete connections between scientific and everyday knowledge within a real life activity is enhanced, as well as the opportunity to make sense of the world around them. By considering socio-historical-cultural aspects (Vygotsky 2003) of the activity in which they participate, they can take a critical position towards it, reflecting on their perspective and way of thinking then making informed choices about how they will act in that activity in the world. Constructing the shared meaning along the teaching-learning process that individual’s actions impact others, which can grow into macro-societal change; that by mobilizing others, the power to change, to transform, multiplies its potential. Through this creative-collaborative process of meaning making within real life activities, students have the chance to originate new ways of being in the world, which deal with present and future necessities as society evolves to meet the challenges and shape outcomes aiming toward collectively shared objectives constructed on the foundation of democratic negotiation.

This paper presents the work of Stance Dual School (SDS) in Sao Paulo, Brazil, where the activity-based curriculum matched with intensive teacher training have produced a unique experiment in education. SDS is a private, bilingual (English and Portuguese) school for children ages 2-15. Students study language, science, math and social studies within an activity framework that connects the subject area concepts they are learning to the life they live (now and/or in the future) in a dual movement (Vygotsky, 1934; Hedeggard, 1998) that brings the two together. In this dual process in which collaboratively making meaning occurs, students must play, in the Vygotskian sense, these real life activities, integrating the scientific and everyday knowledge they are
constructing throughout the teaching-learning process into their performances (Holzman, 1997). These performances create cognitive-emotional experiences, or what Vygotsky referred to as perezhivanija (Vygotsky, 1999), which further produces a zone of proximal development (Vygotsky, 1998; Newman and Holzman, 2002) where participants can go beyond themselves and develop through a collaborative-creative process. In doing so, students can produce new possibilities for action in the world and re-create themselves according to the ever-changing conditions of the world around them and their desires to transform their lives and their surroundings.

In this paper, various activities throughout the curriculum will be shared, from different age groups, in order to demonstrate the aforementioned aspects. By way of video extracts of the teaching-learning process in the classroom; task examples; curricular documents; and excerpts from teacher development meetings; the practice of preparing students for the world in the twenty-first century will be highlighted and discussed.

One example that will be shared is eighth grade students (fourteen year olds) participation in the real life activity “Locating, Interpreting and Responding to Current Affairs” in the subject of social studies. Students must find various sources for current affairs and probe into the background details of different publications and authors, analyzing the context of production (Bakhtin, 1953/2000) of the articles they read critically to determine the explicit and implicit positions, or bias. Students study several articles for every current affair to gain an understanding of the variety of perspectives that are taken toward each one, researching the underlying factors that contributed to such point of views. From this students are engaged in many performances (conference presentations, roundtable discussions, debates, etc.) where they must assume the role of different authorities on the current affair (politicians, experts, business leaders, etc.). Finally, students must question their role in society in taking their own position and responding to current affairs through concrete actions.

In fifth grade (11 year olds) students participate in the real life activity of “Organizing a Public Awareness Campaign”, which integrates the work of science and language arts. In science students study the scientific concepts involved in the phenomenon of the greenhouse effect. In language arts they study the genres: persuasive letter, slogans, campaign posters and campaign speeches. These subject area contents are studied within the framework of the real life activity “Organizing a Public Awareness Campaign”, which in years past has materialized in a protest march involving the whole school community about the importance of raising awareness and taking a stance to diminish our carbon footprints and slow down or reverse the process of global warming.

By participating in real life activities in which students much externalize the scientific and everyday knowledge they have built up over the teaching-learning process in their performances of the activity, taking
a transformative-activist stance towards what they are doing in the class and in the world, this educational paradigm provides students with the possibility to face twenty-first century challenges more successfully.
That Alexei N. Leontiev played a significant role in Soviet psychology, including interpreting Vygotsky’s work, is beyond dispute; however, there are long-standing disagreements over exactly what this role entailed and over the accuracy of his representation of Vygotsky’s work (Davydov, 1981; Haenen, 1996; Koshmanov, 2007; Kozulin, 1986, 1990; Robbins, 2007, van der Veer and Valsiner, 1991; Vygodskaya, & Lifanova, 1999abc; Yasnitsky and Ferrari, 2008, among others). Generally, these accounts do not address how the essence of Vygotsky’s work is obscured by Leontiev’s representations. The intent of this paper is not to recount the disagreements, but to analyze four of Leontiev’s central representations of Vygotsky’s work as a means of uncovering essential aspects of that work that have been obscured by those representations.

While it draws on other writings of Leontiev’s (1978, 1989,1997), this paper focuses on two of his rarely-cited articles (1933, 1935) which were written during a critical time for anyone working with Vygotsky. His work was coming under increasingly more numerous and more slanderous attacks by Stalin’s henchmen and was eventually banned in 1936, two years after his death. In 1930, Leontiev moved from Moscow to Kharkov along with Bozhovich, Zaporozhets, and Luria and was not able to collaborate as closely with Vygotsky (Kozulin, 1990; van der Veer, 1991). In the first article, entitled Notes on Consciousness, Leontiev presents his understanding of Vygotsky’s work and a critique of it. The second, based on a lecture that Leontiev gave in 1935 on “The Psychological Investigation of Speech,” deepened his criticisms of Vygotsky as he developed the initial rationale for his theory of activity. When Vygotsky’s work was rehabilitated following the 1956 Khrushchev revelations, it was to these representations and criticisms that Leontiev turned, ones that find their echo in more recent interpretations.

Representation 1 – Vygotsky developed the unit “meaning” to analyze consciousness. Leontiev repeatedly refers to “meaning as the unit of consciousness” (1933, 1935) “the problem of the structure of meaning, the unit of consciousness” (Leontiev, 1989, p. 31) as being a central focus for Vygotsky’s investigations. The unit that Vygotsky (1987) did derive, znachenie slova (meaning through language), was used to analyze verbal thinking, an important aspect of consciousness but not its equivalent, and not to analyze “mind” or “consciousness” as a whole. This confusion about the central focus for Vygotsky’s research obscures the essence of his main work – an analysis of the interrelationship between thinking processes and speaking/language processes and their unification.
in verbal thinking – described in Thinking and Speech. In the 1935 lecture and Notes, Leontiev does not mention verbal thinking in the descriptions of Vygotsky’s work and does not present meaning as “the internal structure of the sign operation” (Vygotsky, 1997a, p. 133).

Representation 2 – The concepts of “social consciousness” and “human culture” were determining factors in Vygotsky’s analysis of individual consciousness. Leontiev (1933, 1935, 1989) equates Vygotsky’s views on consciousness with the French school of sociology and asserts that Vygotsky relied on the concept of social consciousness to describe the development of human consciousness. Leontiev then equates social consciousness to human culture and accuses Vygotsky of creating a dichotomy between nature and culture by looking at human culture as the determining factor in human consciousness and ignoring material conditions, actual relations of reality, and practical human activity. This paper addresses that misrepresentation by clarifying Vygotsky’s view on the role of the internalization of meaningful, communicative, social interaction in the development of consciousness.

Representation 3 – Vygotsky made the concept of “psychological tools” central to his theory. Leontiev (1997) writes that a central concept in Vygotsky’s theory is the “idea of the mediation of mental processes by psychological tools” (p. 32). Mediation was central for Vygotsky, but his main research analyzed the development of internal psychical processes – verbal thinking, in particular – that result from mediation, from using language to communicate meaning. The notion that the category of psychological tools is central to Vygotsky’s work is now commonplace, despite Vygotsky’s warning that such a notion does not help in the examination of the origin or the function, in essence the reality, of language use, nor does it help explain language’s relationship to the development of consciousness (1997b).

Representation 4 – The relationship between emotions and intelligence was a central focus for Vygotsky’s work. Leontiev (1933, 1935) maintained that the paramount problem for Vygotsky was “the problem of affect and intelligence” but that he was not able to complete this work. While Vygotsky stressed affective factors in the analysis of consciousness, the central problem that he addressed in his main work was the relationship between thinking and speaking processes. He clearly states in Thinking and Speech (pp. 49-50) that one of the issues that he did not address, but that was on the agenda for further research was the examination of the relationship between intellect and affect.

*Vygotsky’s System of Meaning*

Leontiev, in analyzing Vygotsky’s work (1933, 1935), poses the question: What is behind the word, behind generalization, behind meaning? missing the fact that Thinking and Speech is devoted to an explanation of what lies behind language – an internal system of meaning that has been constructed
through the use of the sign operation. This essential concept of Vygotsky’s has been overlooked because of the focus on the external meanings of words and on mediation through signs, not on the system of meaning that results from mediation. This paper describes the system of meaning’s construction through the unification of thinking and speech processes in verbal thinking, which develops through human sensuous activity in social situations of development that are part of the whole historical and cultural development of humanity. It also analyzes the development of the structure of generalization as the foundation for the system of meaning, which in turn is central to the development of a system of concepts. The paper ends with a brief discussion of ways in which the essential concept of system of meaning has been and can be used in research, especially with second language learning.
Introduction

Vygotsky’s theory of concept formation is related to the theoretical view of effective learning as a socially and culturally mediated process. Effective teaching fosters the interaction between scientific and everyday concepts, which leads to a ‘true’ concept formation. This process brings together the individual experience of the learner (spontaneous or everyday concepts) and the wealth of theoretical knowledge accumulated in society (scientific concepts) (Vygotsky, 1986). Vygotsky's theory of concept formation is highly productive for the study of learning, however, “it leaves plenty of room” for further development and investigation (van der Veer, 1998).

As the theory of Vygotsky has been mainly known as a theory of child development and learning, much has been written about its implication to teaching of children, however, its application to adult learning, and teaching at a tertiary level in particular, gained less attention (Smith & Pourchot, 1998). This paper presents two case studies which investigate the development of scientific and everyday concepts in adult learners.

Case study 1 Teaching teacher educators in the Zone of Proximal Development (ZPD)

The theories of teaching and learning, including the theory of Vygotsky, constitute an important part of teacher education. The researcher, who has worked as a lecturer in educational psychology for a number of years, developed her own believes about teaching which were based in the theory of Vygotsky. Being educated in Russia and perceived by the colleagues as knowledgeable in this theory, the researcher was comfortable with her self-identity as a ‘Vygotskian educator’. Utilising a ‘self-study’ methodology (Bullough & Pinnegar, 2001) allowed the researcher to study herself as an educator who can apply the theory of learning that she believes in, and teaches, to her own teaching practice.

The focus of the case study was on the ways that the lecturer attempted to facilitate pre-service teacher students’ group project discussion in their ZPD. The self-study was conducted in a dialogue with fellow teacher educators and the students. Reflection on her own teaching allowed the researcher to think about her own teaching journey as a process of amalgamating the scientific concept of ‘teaching in the ZPD’ with her spontaneous concept of a ‘group work facilitation’.
The study demonstrated that the researcher’s substantial theoretical knowledge about teaching in the ZPD (a scientific concept) did not automatically translate into her own teaching. The application of the theoretical knowledge to a specific context of teaching a particular project to a particular group of students required a great deal of self-reflection, discussion and listening to the students. The study stimulated the researcher to revisit some basic assumptions about the teaching in the ZPD such as tuning into the diverse educational needs of the students, establishing intersubjectivity and the ownership of co-constructed knowledge.

Case study 2 Scientific concepts in teaching singing

This case presents part of a larger study, which employed ‘development research’ methodology (Van Den Akker et al, 2006) and aimed to develop a model of vocal pedagogy based in Vygotsky’s theory (Latukefu, 2007). The focus of the research presented in this paper is on the ways that the theory of concept formation can enhance vocal training.

Most people naturally acquire singing or speaking skills and develop some level of understanding of how the voice functions (‘everyday concepts’). However, to work professionally as a singer requires special vocal training. Professionally established notions of how to sing form the basis for such training and constitute ‘scientific concepts’ which are related to the anatomy and physiology of the vocal tract and body and include breath management, resonance and articulation, and differentiated movement in the vocal apparatus to name a few.

There is an ongoing debate in vocal education on whether, and how, these scientific concepts should be taught to enhance the learning of singing. Some research on motor skill acquisition (Verdolini-Marston & Balota, 1994, in Latukefu, 2007) demonstrated that too much information given to students while trying to master motor skill acquisition can have a detrimental effect. On the other hand, there was a concern that singing students at various tertiary institutions were not being taught scientific concepts of singing. Following Vygotsky’s theory of concept formation, it is necessary to introduce scientific concepts to singing students. However, the way the concepts are introduced to the learner is essential.

Scientific concepts were introduced by the lecturer to 35 University students. The techniques which were found useful were those of body mapping followed by release of constriction and differentiated movement in the larynx, breathing and support and vocal resonance. Students were asked to reflect upon their learning process and write reflective journals as part of their study
process. These reflections were collected and analysed, together with observations from the teacher, which complemented the perceptions of the students.

The analysis of the reflective journals indicated that such techniques were helpful for students’ self-regulation of singing, as they gradually understood how their voice worked in relation to their body. With this knowledge they were more likely to develop their own strategies that would help them transferring their knowledge to other practices. The acquisition of the scientific concepts took a significant period of time and conscious practice.

**Conclusion**

The two case studies allowed the capture of the intricate and dynamic process of interaction between the scientific concepts that ‘grow downward through spontaneous concepts’ and spontaneous concepts that ‘grow upward through scientific concepts’ (Vygotsky, 1986). Some specific examples will be included in the presentation.

**References**


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In order to make sense of this complexity, we advocate the integration of Activity Theory into a sense-making framework, known by the Welsh word Cynefin, created for the field of Knowledge Management (Snowden 2002). This framework describes five Domains of human activities and the contexts within which they take place. These are the ‘ordered’ Domain, namely the Known or Simple Domain, the Knowable or Complicated Domain; the ‘unordered’ Domains of Complexity and Chaos; and the Domain of Disorder. Human activities can be located in any of the Cynefin domains, and move between them. However, Cynefin makes a particular distinction between ‘complicated’ activities and ‘complex’ ones which is particular relevant for studies of work in real world contexts. In ‘complicated’ activities, it is possible to control situations and solve problems using increasingly complicated structures and systems. In contrast, when dealing with ‘complex’ activities, it is more appropriate to relinquish control and replace ‘rules and regulations’ with ‘attractors and boundaries’. According to the Cynefin framework, a situation being ‘complex’ rather than ‘complicated’ means that cause and effect can only be determined in retrospect so that management should allow and reward desirable emergent practice rather than mandate outcomes.

The message of Cynefin is that we should choose our way of making sense of a problem and attempt to solve it according to where it is located among the Cynefin Domains. When dealing with ordered complicated activities, a reductionist approach has some merit. Within Activity Theory there are well known classification systems to assist this process, namely: the elements of activities
within the Engestrom Triangle (Engestrom 1987); Engestrom’s four levels of contradictions (Engestrom 1999); Leontiev’s hierarchy of activities, action and operations (Leoniev 1981); and the three levels of tools described by Hasan and Gould (2001): Primary Tools (artefacts, instruments, machines, computers), Secondary Tools (language, signs, ideas, models) and Tertiary Tools (cultural systems, scientific fiction, virtual realities). Such classifications are useful for making sense of complicated problems but have their limitations and these become increasing more complicated, dynamic and interconnected. There is a point where a ‘complicated’ problem crosses over into the Complex Domain and the reductionist approach is not longer suitable. This can occur when there are a large number of constructs in a situation that cannot be ignored and when many of these constructs are not easily measurable.

The richness and depth of Activity Theory is particularly suitable for understanding and analysing ‘complex’ activities which challenge most traditional theories of human behaviour. The Complex Domain is where we find is where we find the messy world of many contemporary global challenges and endeavours, for example the Global Financial Crisis (GCF) and the consequences of Climate Change. What is more, aspects of two major problems are interrelated, for example, enthusiasm and support for Climate Change initiatives were dampened as the effects of the GFC were felt by individuals and governments. After the Copenhagen summit, there seems to be much confusion as to what to do.

A decade or so ago the concept of the triple bottom line (TBL) became popular as human enterprises espoused the virtues of ‘people, profit and planet’, i.e. the social, economic and environmental. As global and national economic situations became the focus of policy, the TBL concept seemed to loose popularity and go the way of other management fads. Then came the GFC and we began to question whether making a profit, balancing the books or maximizing only the financial bottom line should be the sole determinant of all organizational decision-making. Other issues are now threatening leaders of industry and government. There are pressing social issues of workplace agreements, skill shortages, health and education reforms, rights of asylum seekers, etc. Then there have been the environmental issues: catastrophes, such as the one that BP is battling in the US, not to mention the climate change debate and other environmental concerns.

The situations face by many organizations and the activities of work teams in their various fields of operation have unanticipated challenges and conflicting imperatives. The resources and technologies that mediate these activities are changing at such a rapid pace that several generation of these operate side by side. In particular the latest generation of digital artefacts are changing the
The way we organize, the way we do things and determine what is important to us. The speed at which information spreads is orders of magnitude faster that even a few years ago and there is a permanent digit record of everything we communicate via email, chat, twitter etc. According to the Cynefin framework, the context of the work-place is becoming more than just complicated; it is becoming complex and needs to be treated as such. As example of this could be that organizational managers should not try to limit employees’ use of these social technologies, as is often the case, but allow them to choose which of these tools, that they all use productively outside of work, could be useful at work. This would involve replacing restrictive ‘rules and regulations’ with ‘attractors and boundaries’ which guide and empower employees.

The organizational context of these information systems is continually changing in response to volatile, ambiguous and unpredictable business environments as well social and environmental ones. Networked digital technologies and systems have been a major contributor to the speed of this change while continually evolving to meet its demands. More than ever, we must recognize that the organizational ecology encompasses a complex diversity of phenomena, situations, structures, processes, problems and solutions. Being successful and sustainable in this complex context requires organizations to be less mechanistic and more organic where natural human capabilities of ‘common sense’ are allowed and encouraged. Rather than concentrating on operations there should be a greater focus on whole activities their purpose and motives. According to Activity Theory an activity is a dialectic relationship between subject and object, dynamically mediated by tools. If allowed to do, so people can balance the subjective and objective aspects of their work activities and explore the value of newly emerging technologies in supporting the collaborative aspects of team work and their impact on the environment.

All this leads to my view that ‘organising’ any sort of human enterprise is tending to go from being a ‘complicated’ activity to ‘complex’ one and for this we need new theory of organization are has been termed ‘Sensible Organization’ (Hasan et al 2007). For all human enterprises to perform effectively, they need to develop social capital as people meet, communicate, collaborate and coordinate activities. We are also becoming increasingly aware that we need to organise in ways that are sustainable along the TBL. Traditional ways of working are a hangover from the industrial age where workers met face-to-face, had a daily routine of ‘going to work’, printed out material to read and so on. These all have a significant carbon footprint. Today in the knowledge age the workplace can span cities and the impact on the environment of doing things the traditional way is not sustainable. Greener IT-enabled alternatives have been around for some time, namely
teleconferencing, telecommuting, the virtual office, group decision support systems, and digital document management. However, their uptake has not been widespread as people have resisted the combination of technical, economic, social and cultural changes to the way things are done. There is an urgent imperative for meaningful research on this topic using techniques suitable to the Complex Domain where these activities are located through simulations, experiments and case studies of implementations where people in realistic contexts are reducing the environmental-footprint of their activities using networked social technologies. It ‘makes sense’ we should seek to implement networked socio-technical solutions that can enable industry and government decision-makers to balance performance against economic, environmental, social and technical dimensions in responsible, sensible organizations.

References
Evolution of activity in the placeless organization

Activity Theory has been used by many workplace researchers, including Engeström (2005), Kuuti (1995) Crawford & Hasan (2006), Foot (2002), Lee & Roth (2008), to examine dynamic multifaceted socio-technical contexts. In doing so Activity Theory itself has expanded from the original concepts of Vygotsky and Leontiev’s hierarchy of activities, incorporating Engeström’s Triangle with its social infrastructure, expansive learning (Engeström, 1987), interconnected activity systems (Engeström, 1996), knotworking (2000) and co-configuration work (2004), three levels of tools (Hasan & Gould, 2001) and more. Recently, Nardi (2007) proposed the ‘placeless’ organizations (eg Medicins Sans Frontier, World Trade Organization) characterised as guided by a co-constructed transformative object i.e. multiple participants collaborate to bring about social transformation on national or global scales. This object construction involves intensive learning by participants who are employed by diverse smaller organizations which constitute the placeless organization. With a structure comprising a hierarchical nucleus and distributed vetted participants from multiple diverse smaller organizations, placeless organizations have shifting geographically dispersed work sites each with their own instantiations of the co-constructed object. It is the evolution of one such organization, the World Anti-Doping Agency (WADA) whose object is eradicating doping from sport that is the focus of this paper. The paper draws on the theoretical lenses of Activity Theory and the complexity informed Cynefin sense-making framework developed by Snowden (1999) and Kurtz and Snowden (2003) to better understand the organization’s development and transformation.

Originating in the field of Knowledge Management, the Cynefin sense-making framework comprises four knowledge domains flagging the different relationships between cause and effect, and a central fifth domain of ‘disorder’. In the Known or Simple Domain the cause and effect relationship is obvious to all. Work contexts in this domain suit a centralised bureaucratic way of working. Work is ordered and based on best practice, standard routines, rules and regulations. In the Complicated Domain the relationship between cause and effect requires behind-the-scenes analysis or some form of investigation and the application of expert knowledge. Work is ordered, assumes all knowledge is knowable and leads to good practice. In the Complex Domain the relationship between cause and effect can only be recognised retrospectively. Publicly invisible work is unordered and allows emergent practice. In the Chaos Domain, there is no relationship between cause and effect at systems level and no discernable structure. The best approach is to discover novel practice. The fifth domain, Disorder, is the destructive state of not knowing what type of
causality exists and thus not knowing which way of working is best. Contexts in Disorder can initiate new approaches. Movement between the domains occurs naturally. Whilst order can be forced on Chaotic situations to move them to the Simple domain, there is a natural drift from the visibly unordered Chaotic, to Complex where the patterns of cause and effect are identified with hindsight, to Complicated where newly identified patterns of cause and effect are tested for reproducibility, to the visibly, ordered Simple domain where the stabilized knowledge of cause and effect are harnessed as known solutions as part of everyday ritual. Intensive learning is integral to this movement. Simultaneously obsolescence, forgetfulness, new challenges and curiosity of new generations initiate movement in the opposite direction countering what seemed to be moving towards predictable practice.

Consideration of the Cynefin domain in which work activity is situated provides Activity Theory researchers with an even more powerful language with which to make sense of dynamic contexts and to trace objects as they move in time and space and cross various boundaries and contexts. In particular, these frameworks are helpful in making sense of the cultural history of the wickedly problematic contexts in which placeless organizations with their transformative objects emerge to “devise and teach new practices, [and attempt] to effect learning in the venues they seek to influence” (Nardi, 2007, p. 6). The evolution of the World Anti-Doping Agency (WADA) as a placeless organization exemplifies these synergies.

The evolving activity of anti-doping work

The transformative object of eradicating doping in sport acknowledges doping as against the spirit of sport, bad for athletes’ health, detrimental for spectators and a form of cheating. Insights into strategies for addressing the doping problem have come after probing and the formulation and trial of various possible solutions over time. WADA’s transformative object of eradicating doping in sport is shared by WADA’s diverse participant organizations. However, the work of realising that co-constructed object is carried out, or instantiated (Nardi, 2007) by these participant organizations in ways that befits their particular role, skill set and circumstances. Historically these instantiations are:

- Regulating against the use of doping substances. First introduced in the 1920s, this rule-based approach attempted to situate this anti-doping activity in the Cynefin’s Simple domain. Athlete deaths and hearsay pointed to continued uncontrolled doping: anti-doping work remained in Chaos. Sports administrators accepted the inadequacy of regulatory efforts alone to eradicate doping.
- Detecting the use of doping agents by urinary analysis. In the 1960s analytical scientists began to build a new forensic science field in the Complex and Complicated domains aimed
at developing robust validated analytical techniques for high-volume routine laboratory analyses in the Simple Domain. Even so, during the 1980s the high profile elite athletes found guilty of doping pointed to continuing uncontrolled doping in sport.

- Testing and educating athletes. During the 1980s and 1990s governments and sporting organizations drew on the expert knowledge and skills of sports education and public health experts to educate athletes and to set up programs that tested national athletes both during and between competitions.

- Harmonising and supporting anti-doping efforts on a global basis. Marked differences between countries’ and sports’ anti-doping efforts led to the formation of WADA in 1999. The motto of this placeless organization, “Play True”, encapsulates the object of eradicating doping in sport that it shares with its hundreds of sports and government participant members. The hope was that harmonisation would move the public perception and practice of anti-doping work toward the Simple domain.

Activity associated with the context and with each these object instantiations is dynamic, transforming expansively to meet the ongoing challenges of the context: For example, athletes’ legal challenges to rulings made against them; the developing detection techniques that will identify new substances and techniques that athletes use to illegally enhance their performance. Bringing about these transformations is complex and/or complicated work that moves what may have been heading for the Simple back to the Complex or Complicated. Additional object instantiations have resulted from WADA’s global capacities: Testing athletes anytime, anywhere; prosecuting of non-athletes involved in doping, and investigating the trafficking of banned substances.

Placeless organizations such as WADA are an important part of the response to globally recognised problems. This paper demonstrates the use of Activity Theory and the Cynefin framework to promote sense-making in dynamic socio-technical work contexts. Perceived lack of order situates visible activity in the Chaos domain. Together Activity Theory and the Cynefin framework these frameworks promote visibilisation of the mechanisms whereby additional instantiations of the transformative object are generated and developed. New object instantiation requires expert knowledge and takes place in Cynefin’s Complex and/or Complicated knowledge domains. Activity in the Complex domain is emergent and involves knotworking its new form. Activity in the Complicated domain can involve co-configuration work between multiple participants to further develop and transform the activity for movement to the Simple domain where there is publicly perceivable order. The unexpected and unmanageable reverses this progression. The various instantiations of the co-constructed object of multiple participants not only give rise to the placeless
organization but give it the capacity to evolve as conditions change and as additional aspects of its transformative object are instantiated. The Cynefin framework provides a powerful tool for Activity Theorists who endeavour to make better sense of work contexts in our dynamic world.

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Recent work on public schools has called for reform at multiple levels of the education system, emphasizing the importance of organizing schools as systems that learn and adapt to the needs of today’s students and the social and economic realities they face (Bryk, Sebring, et al., 2010; Darling-Hammond, et al., 2009; Fullan, 2010). This work identifies quality of instruction as one key element in the transformation of public schooling.

One approach to the problem of teacher quality is the implementation of high quality professional development opportunities for in-service teachers. Promising practices for school improvement include organizing professional development as learning communities in which teachers and school leaders participate in discussions of specific problems of practice that they have identified (City, Elmore, et al., 2009; Eaker, DuFour & DuFour, 2002).

This paper describes one such practice implemented in a middle school and high school in an urban school district in the United States. Both schools have high percentages of poor and immigrant students and have struggled to raise academic achievement, showing improvement in recent years. The schools are participants in a university-school partnership project, the goal of which is to improve the learning and engagement of English language learners through professional development for school leaders and teachers.

In the 2 schools described in the paper, teachers form professional learning communities called learning labs, organized around a shared problem of practice identified by the teachers. In the learning lab, teachers are asked to articulate their beliefs and assumptions about the problem as it relates to students, learning, and teaching. After reading and discussion about the problem, the learning lab teachers share the experience of observing a colleague’s classroom. The host teacher implements strategies that address the problem of practice. The other teachers look for observable teacher and student behaviors related to their focus.

Teachers discuss the shared experience of observing the class following a structured protocol. In the first round of discussion, teachers are required to stick to observable phenomena, taking care to avoid positive or negative judgment about what they saw, heard, or noticed. Each teacher has a chance to contribute during each discussion round. The facilitator makes a written record of teacher contributions on a board, projected document, or large-format paper. In the next round, teachers talk about what they might infer about student learning in the observed class, based on the group’s observations. In the final round, teachers move one rung higher on the inferential ladder, by making connections among what they observed, the implications for student learning, and their own beliefs...
Evidence of teacher learning in learning labs is drawn from field notes, artifacts co-produced by teachers during their discussions, and exit tickets, on which teachers write their personal assessment of the learning lab experience including its effect on their beliefs about teaching and learning and their intentions to implement new strategies in their classrooms. Audio-recording and analysis of teacher discussions in learning labs provide examples of teacher talk about their practice. Teachers’ written reflections, observations of teachers, and student interviews document changes in teachers’ practice.

In addition to a description of the learning lab activity and documentation of teacher responses, the paper offers an explanation of how and why participation in learning labs can lead to teacher learning and change. If learning is defined as change over time through engagement in activity (Clarke, 2003), then the nature of activity, what the learner does, matters greatly to the nature of the learning (Brancard, 2008).

Drawing on adult learning theory in the work of Kegan (1994), Kegan and Lahey (2001), Drago-Severson (2009), and Baxter Magolda (1999), the author argues that sustained change in teacher practice happens when learning is transformative, when experiences and the meaning the teacher makes of those experiences change the way teachers see their world—their school, their classroom, their students and their roles as teachers. The learning lab activity structure supports the possibility of transformative learning. It provides what Kegan calls a “holding environment”, a safe place in which to be who one is at the moment. Adults learn when the content of the learning is grounded in their experience, when that experience is a valued part of learning activity (Baxter Magolda, 1999). Learning labs are grounded in teachers’ particular experiences in a particular school with particular students. Effective learning environments for adults are interactive; adults learn with their peers. (Baxter Magolda, 1999; Brancard, 2008). Learning labs are highly interactive, allowing teachers to listen to their colleagues’ ideas. Transformative learning can occur when learners articulate their assumptions about the world, test those assumptions, and revise those assumptions based on new experiences (Kegan, 1994; Kegan & Lahey, 2001). Learning lab observations and discussions allow teachers to test their assumptions about teaching and learning by following a discipline of grounding inferences in empirical observation of classrooms, by seeing teaching and learning through the eyes of colleagues, and then revising or confirming their beliefs and talking about the implications for their own practice.

Partial List of References
of Chicago Press.
Background
In an annual field excursion to a remote National Park in South Africa, students from an urban university’s teacher education program are exposed to a radical intervention in which their pedagogical and social boundaries are stretched or “expanded” in the way that Engeström (1987, 2001) has used the term to describe transformation. The program aims to challenge notions of what “becoming” (Semetsky, 2006, discussing Deleuzian notions as applied to education) a teacher means in a diverse and socially struggling society, while weaving the metaphors of the natural environment into their discourse. In this isolated setting, devoid of mobile communication and other technologies, the students come face-to-face with one another in small-group activities that range from energy conservation, HIV/AIDS as ever present part of daily life, stereotyping, leadership, and pedagogies for teaching in schools with optimal diversity. They are grouped outside of their spontaneous ethnic, gender, and cultural peer grouping to form working entities that are optimally diverse. They spend a week together, learning about sustainability of human and natural resources and how to weave these elements not only into their worldview, but especially also into their view of learning and teaching. It reminds us of the example of Wolff-Michael Roth’s living and educating worldview, which encapsulates the epistemology that he propounds in his work as scholar, teacher and home entrepreneur (www.educ.uvic.ca/Faculty/mroth).

Objectives
The paper will argue that the expanded curriculum, with its informal and often playful social tone, creates a much needed genre for pre-service interaction – a genre that can optimize creative engineering of pedagogic content knowledge. It is also a genre that emphasizes social relationships as the first “cultural plane” of which Lev Vygotsky (1978, 1983, 1986) speaks when he theorizes about internalization (Veresov, 2004, 2007) as socially embedded phenomenon that also “distributes” learning (Brown, Collins & Duguid, 1989; Hutchins, 1995). The purpose of this paper is to show how a (trans)curriculum of teacher education assists emerging teachers to experience “becoming” in a rhizomic flow-and-grow (Semetsky, 2006) that can begin to be expressed in the metaphors used by Deleuze and Guattari (1987:6). In the field camp tensions in the teacher education curriculum and of life on the huge comprehensive university campus are refracted, illuminated and then explored and expanded. We will highlight some of these tensions in the presentation.

Perspective: the field excursion as activity system in which relationships are crucial
We view the processes captured in the excursion experience over three years from a cultural
historical and activity theory perspective (CHAT) – especially in the guise of third generation activity theory as propounded by Engeström (1987; 2001). From this theoretical position we see, or ‘gaze upon’ the week-long curriculum experience as an activity system that is adjacent to the system of the formal program at the university, much as Beatty and Feldman, (2009) view teachers in a development program as an adjacent system to schools. Thus, when students get onto the bus that takes them from the city campus to the nature park dorms in the highlands, they traverse both a sociocultural and an epistemological space.

We argue that the second system, which is less formal and in which the activity system morphs formal, assessment-driven, and rule-governed social behavior of a university curriculum (and overall activity) to an informal and rule-negotiating space, is a system that allows underlying contestations to come to the fore. In this space new tensions and, in Nikolai Veresov’s (2007; 2004) diction, “dramatical” collisions take place that assist in pushing the boundaries of the “zone of proximal development” to the outer limits and towards the ideal form – a truly aware teacher. Since the first excursion in 2007 it was found that the students have had little opportunity to interact socially with peers from different ethnic and cultural groups on the campus. Their closer encounter has persistently revealed racial bias, social fear, and tensions that are not, or cannot become pertinent in the formatted campus life. The excursion focuses on getting peers to interact and to learn more about the values and languages of different groups and to simply get to know their fellow South African citizens and university program peers a little better. With the “ideal form” objective of harmonizing relations we try to take the students out of their zone of comfort into a zone of development – and the discomfort that they experience is sensed (observed) in many actions as they work and live in deliberately configured mixed groups. There are indeed many “dramatical collisions” (in Veresovian parlance) that fire the excursion’s activity system and that lend themselves for transaction and transformation in an “expanded learning” discourse a la Engeström (2001).

**Modes of inquiry**
We accumulated data for this first inquiry into three years’ of excursion curriculum through four different and complementing methods of capturing data:

a) The students compiled a portfolio of their “Mountain Curriculum” experience and used multimedia, complemented by

b) narratives that they composed upon their return to the campus, and

c) questionnaires they completed on a variety of topics pertaining to the experience, coupled with their “teacher’s pledge”, as well as

d) the faculty and other staff members’ ethnographic field notes and photographs and video
recordings. All of these data were collated and analyzed, highlighting discourse in a hybrid method adapted from, among others, Norman Fairclough (2003), by Author (2009) and in Author’s 2004 text on research methodology. The data were recorded and systemized every year.

The most dominant theme in the data has been the awareness of diversity and the bias across groups, something that has been taken into the curriculum deliberately as topic. African students expressed apprehension to perform for fear of critique of their English accents, while white students were equally apprehensive to come too close (emotionally, socially and physically) to students outside their own group and were critical of some of the views of privacy in the dorms. Our analyses of the various artifacts have pointed to a major void in the campus curriculum of teacher education at our university.
The research objective is to reveal the effective ways and means of argumentation skills development at the Rhetoric lessons. The research was carried out at Moscow Art School. The participants were children 7 - 11 years of age.

Methodologic sources: 1) J. Piaget’s ideas about the role of cooperation in the child’s intellectual development, works by A.-N. Perret-Cle mounting and others; 2) cultural-historical theory by L. Vygotsky, the theory of developmental education by D. Elkonin & V.Davydov, mental action theory by P. Galperin, theoretical and experimental works of G. Zukerman.

The hypothesis: argumentation will stimulate child’s intellectual development, i.e. it will help children to move over from simple fantasy through egocentric attitudes to objective stand in the solving of the problem set.

The method of ‘debates’ was used. ‘Debates’ is a role game that represents certain from of discussion based on strict rules. The teams, participating in ‘debates’, must view a certain disputable issue from opposite points of view.

The process of research: the pupils are offered to find out the solution to the following issue: “City Ecology: the concern of each resident and of special organizations?” The pupils are put into the situation when they need to define the own position; explain it to another person and to him/herself. While doing it they need to take the opponent’s point of view into consideration. He/ she needs to support his/her statement with a logically correct system of arguments, to formulate objections and counter objection during the discussion. The main task of the teacher who conducts the research is to notice when and how during the discussion the decentration occurs, i.e. when a child transfers from the egocentric position to viewing the problem on the basis of objective criteria.

There are two units of an analysis used in the research:

1. The egocentric position that is characterized by operating imaginary facts, fantasies and monologue interaction. From the point of view of the logical bases of argumentation giving in this case the basic laws are broken. We see the loss of the thesis statement, its shift, i.e. partial proving of the opponent’s thesis, as well as tautological explanation (argumentation circle), using of false facts as arguments and etc.

2. The objective position that is characterized by the orientation towards the opponents’ points of view, scientific basis of the subject being discussed, orientation to the discussion (not only to state one’s opinion but also to listen to the others’ opinion and to react on them). This position is also characterized by the critical attitude to the opponents’ stands, abiding by the rules of the discussion.
and being ethical to the interlocutor. For this position it is typical that a person uses a lot of arguments that is expressed by being logical, consistent, prognostic and tolerant.

The research results. The children were divided into two groups, one supporting the thesis “City Ecology is the concern of each resident” (hereafter referred to as “+”), the other group supporting the thesis “City Ecology is the concern of special organizations” (hereafter referred to as “-”). For example:

Arthur, 11 years, (+): “I think that the city ecology is the concern of each resident because special organizations may sometimes not see all the litter that people leave behind in fences, under benches and other places that are difficult to reach. For me it is easier to pick up this sweet wrapper and throw it away when I’m walking past it than to wait for some special people with their machines.

Masha, 10 years, (-): “And how do you know may be a man will be able to build such perfect machines so they will make it possible to remove rubbish even in the places that are difficult to reach?”

Arthur, 11 years, (+): “People throw sweet wrappers down every day, pollute rivers, lakes, the air. No super machines will be enough”

Vlad, 10 years, (-): “Then how one man will be able to struggle with such huge pollution so well on his own?”

Arthur, 11 years, (+): “I think that if the government starts to create special organizations, to buy machines, to construct buildings for these organizations, to hire employees then in 20 years the country will either become bankrupt or it will stop providing medical care, education and safety for its people as all the funds will be given to support such organizations. Finally people will lose their jobs. Isn’t it better to impose a duty on each person to preserve the nature around him/her?”

This dialogue may be represented as follows:

**Speech 1**

Arthur
Thesis The city ecology is the concern of each resident
Argument
For me it is easier to pick it up and throw it away than to call for some specialists

**Speech 2**

Arthur
Thesis Special machines will never be able to cope with the pollution
Argument
The environment is being polluted at very high rates
Speech 3

Arthur Thesis It’s better to obligate each person to preserve nature

Argument

Supporting of special organizations is more likely to bring the government to bankruptcy than to cleaning up the environment.

Thus we can observe the specific character of how the pupils are using arguments. The decentration takes place during the refuting the original arguments of the speaker by the opponents. In this particular example in the table ‘Speech 1’ we see that the problem is initially viewed from the personal point of view of the pupil. Then (table ‘Speech 2’) the child comes to the opinion that it makes no sense to deal with the problem subjectively because what is convenient for one may not be appropriate to the others. The moment of shift here is the refuting question of the opponent. What follows is the widening of the understanding of the subject in question. And the child views the problem from the position of the government that represents society as a whole. They can formulate their arguments logically and correctly only then when they reach the level of objective position in their own reasoning.
Collaborative learning within innovative educational context: relationships between oral and written discourse in elementary students

Kissy Guzmán - Sylvia Rojas-Drummond

This research is based on a sociocultural perspective from which the collaboration is conceived as a process of ensemble creation where two or more individuals with complementary skills, will interact to create a common comprehension of the activity. In here, it stands out the action mediated through different cultural artifacts including oral and written language and the information and communication technologies in situated practices. (Cole, 1996; Daniels, 2003; Dixon-Krauss, 1996; Engeström, 1999; Wertsch, 1991 y Vigotsky 1981).

From this perspective the language is recognized as the mediator by excellent that allows individuals to think as a whole (interthinking) to build common knowledge and get involved on a more competent way in their communities activities. However, when in the school practice is common that students work in teams, this is sustained principally in the distribution of assignments as form of individual work. It is less frequently the reciprocal collaboration through constructed communication and when it happens it is not only reject but punished. (Boxel y Roeldofs, 2001; Dawes, 2000; Harris y Ratcliffe, 2005; Mazón, 2006; Peón 2004; Mercer, 2000; Rojas-Drummond, 2000 y Swann, 2007).

In this sense it is pretend to analyze this process of thinking inside the context of practical activities, as well as the transformations of the system of activity from multiple perspectives that occurred when individuals work in groups. Consequently, this research heads off from the supposition that understand the place of language in the classroom, more than paying attention to the spoken word per se, it has to center the analyze in its contributions to the activities that students partake, as well as the functions that speak carries out to mediate in the objectives of these activities (Bakhin, 1986; Halliday, 1982 y Saville-Troike, 2003).

The objectives of this research were to depict the interaction and discourse between students of 6th grade of elementary school during the composition of informative text as well as identifying the relationship between the oral and the written language. One hundred and fifteen students from two public schools in Mexico City took part. One school function as experimental group were the program “Acercándonos al conocimiento: creando una revista de divulgación (CREA)” was implemented between the school of year 2007-2008 and the other one functioned as the control group. During the time of the program the students were organized in groups of three and developed a project of research on a subject of their choice. During the elaboration of the project the students
strengthened their skills to work in team, to solve problems, to evaluate, to synthesize and to integrate information from different sources; as well as functional use of technologies. As a result of researches students published their findings in article of divulgation and selected the most relevant information for a multimodal presentation before the school community.

Two version of the instruments of composition of informative text (individual, and in groups) were implemented as pre-test and post-test at the beginning and at the end of school year. The instrument has as purpose the composition of an article for a school magazine from three texts related to the same subject. The types of text that conform the instrument are: a piece of news, an encyclopedia entry, an editorial. For the application in groups, the students were gathered in group of three and randomly a focal was selected in each school which was videotaped during the application of the group composition instrument.

It was used Dynamic Inverted Pyramid Method (DIP) (Wegerif, Rojas-Drummond y Mercer, 1999) from which different degrees of abstraction in the data can be achieved according to the level of detail and the depth of the analyze. In this way it is possible that the quality data can be analyzed in a micro level with small sample and then the triangulation with quantitive data with larger samplers. In the specific case of the analyze of written discourse a rubric was employed that evaluates three central aspects of the writing: coherence, grammatical and linguistic conventionalisms. To analyze specifically the interaction and the oral discourse of the focal groups an ethnography of the communication was employed, this allows the integral analyze of the language, based on the functions that a determined cultural context fulfills. This method allows to organize and to classify the dialogical interactions in a hierarchical way respecting the dynamics of the dialogue (Saville-Troike, 2003). This system allows the analysis of situations, events and communicative acts these last are related with four frames of interpretations: team organization, form and content of text, as well as strategy of textual production textual. As well, the communicative acts were grouped, according to prospective function, on demand, deliver or recognition.

The results showed that the student that participated in CREA program unlike the one from the control schools obtained better results in the pots-test in both versions of the instrument for composition of texts. Also it was obtained evidence that the students from the experimental school had a better perform in the grouped version than in the individual one which report that some benefits sociocognitive of the team work. In general aspects, the students of the experimental school wrote texts more coherent, organizing the information according to a determinate textual structure. Also recovered a greater number of principal ideas with the use of sophisticated strategies of synthesis such as the construction

On the other hand it was found evidence of the relation between the kind of oral discourse and the
quality of texts. In the case of the experimental school, in the post-test, unlike the pre-texts, the students negotiated meanings and built together the knowledge through dialogic styles of interaction. This, also, had an impact on the textual productions in which it was observed a use of greater repertoire lexical, as well as an adaptation of linguistic style answering to the communicative function of the text demanded.
Vygotsky, Luria and Leontiev made efforts towards the foundation of a comprehensive science of human psychological phenomena. Their main goal was to understand the diverse forms of human life, such as conscience, without discarding concrete aspects of human existence, historically and culturally rooted. In this context of ideas, mental functions and behaviors are products of the social and cultural milieu.

Among research lines informed by historical cultural psychology it must be emphasized the investigation led essentially by Luria of the course of deterioration of higher level psychological functions in the cases of innate or acquired brain injuries. This set of studies contributed to the development of neuropsychology as interdisciplinary domain.

Luria’s contribution to mind-brain debate appears by the time localizationists and antilocalizationists struggled about relationships between brain and human behavior. According to Luria the impasse suggested by this disagreement could be overcome by the proper comprehension of brain structures contributions to superior mental functions; such a comprehension would ask for radical review of the concepts of psychological function, brain localization of these functions and about symptom.

Luria defines function as a complex activity taken in charge by a set of organs, each one with its specific task and anatomical locus. Because of this assumption it is proposed that it is not possible to restrict a cortical area and to ascribe to it a specific function. It is proposed, then, the substitution of the concept of function by the concept of functional system. Accepting that psychological processes are connected to functional systems demands necessarily a review of the concept of localization. In contrast with inferior mental functions, superior forms of human functioning are not limited to specific areas in the brain. Symptom is the third concept reviewed. This concept does not allow to precise the localization of a lesion, since any change in a part of a system disturbs the functional system as a whole. We could then summarize the core of Luria’s propositions here by the following: the brain is formed by structurally complex and also functionally adaptive functional systems. A functional system can keep executing an invariant set of tasks by different ways.

Luria’s contribution to neuropsychology is not limited to theoretical formulation. He has found that the neuropsychological diagnosis must not limit its focus in specific tasks that the patient can or cannot carry out, but in the quality of patient’s activity, i.e., available alternative ways the patient
can make use. As a consequence, neuropsychological evaluation demands the consideration of a continuum of clinical information, covering quantitative information, issued from psychometric tests, and qualitative data, derived from observational analysis of the structure of each task and the kind of errors produced in clinical inquiry.

Data concerning generalized idiopathic epileptic children (absence type) will be presented in order to illustrate some aspects of the discussion above. This kind of epilepsy is not associated by neurological lesions (idiopathic), being otherwise characterized by a pattern of electrical discharges in both brain hemispheres (generalized) and by crises of absence. Additionally, data presently available indicate that this kind of epilepsy is associated to learning deficits, especially in the domain of mathematics.

Epileptic children who participated in the study presented here had nine to eleven years of age, regularly attending elementary level school in northeast of Brazil and being all administered the same anticonvulsant drug. All of them presented important difficulties in visual perception, seen here as organizational and interpretative process of visual information, which covers abilities such as visual discrimination, visual memory and visospatial organization. Data show that these abilities were directly related to procedural aspects of mathematical activity, leading these children to mistakes in organizing summing-up written algorithms (grouping of unities, tenths and hundreds in order to execute arithmetic procedures). On the other hand, these children benefitted from the help provided by the use of color pencils used in order to chromatically represent and distinguish unities, tenths and hundreds, and then allowing them to bypass their visospatial difficulties.

Data briefly showed above illustrates the principle of mental functions extra-cortical organization. This principle is in the core of the model of Luria’s neuropsychological approach of rehabilitation. This model goes beyond the limits of the spontaneous organization of brain system, making room to auxiliary cultural resources (like color pencils mentioned above), seen here as true “cultural prosthesis” that allow subjects to build up alternative ways to bypass cognitive difficulties. This model illustrates a crucial theoretical construal concerning ontogenetic human development, the concept of plasticity. This concept is coherent with the complexity of neurological development, which is based on the possibility of constantly being reorganized in its historicity, taking into account dynamic integration of filogenetic, ontogenetic and social historical aspects.

All considered, even though neurological development processes are guided by maturation, the presence of a disruptive event or of a congenital aspect which disturbs this process promotes the eclotion of a new functional system. Nevertheless Luria emphasizes that this deviant system is equally adaptive and that culture can always offer tools that will be able to be incorporated to this new system, empowering its functioning and minimizing limiters issued from lesion or brain
malfunction.
Finally, according to these theoretical ideas it is adequate to propose that plasticity is simultaneously source of weakness and force. The human child is very dependent and fragile when he/she is born, but this characteristic in the beginning of human development is in fact connected to the enormous range of possibilities of this species. The human being is an animal with a brain adapted to learning; by the time human child enters in the domain of symbolic language, he/she multiplies those biological possibilities, creating uncountable ways of making sense of the world and of himself.

References
Over the past years, psychology has again become interested in the emotional world. Part of this interest is reflected in the recent appearance of numerous intervention programmes targeting children and adolescents aimed at improving their social and emotional competences. However, many of these programmes meet important obstacles that question their very basis and validity.

The aim of this paper is to present the results of Thinking emotions (Giménez-Dasí, Daniel, Arias & Quintanilla, 2010), an intervention programme based on Lipman’s Philosophy for Children (P4C) (Lipman, Sharp & Oscanyan, 1980), which provides reflection tools and learning methods through dialogue and the development of critical thought.

Different studies have proved P4C to be effective with respect to academic skills, such as development of critical and analytical thought, language, reading and writing, etc. (Daniel, Lafortune, Pallascio, Splitter, Slade & De la Garza, 2005; García-Moriyón, Colom, Lora, Rivas, and Traver, 2000; Iorio, Weinstein, and Martin, 1984; Morehouse and Williams, 1998; Niklasson, Ohlsson, and Ringborg, 1996; Reed, Ronald, and Henderson, 1984). However, there is a lack of data regarding specific intervention programmes applying P4C to socio-emotional issues, even if the programme’s methodology has a lot to offer for the development of these issues. A research community represents a domain that in itself promotes awareness and regulation of emotions, acquisition of socially adapted interaction strategies and empathy.

Thinking emotions: A programme for early childhood education based on P4C

From this framework, we consider that our programme fits in with the results of some empirical studies that indicate that to favour reflection, the use of dialogue as a tool to promote perspective taking, and the demand to listen and attend as basic requisite to negotiate meanings, are sufficiently attractive aspects that they could well constitute an intervention proposal in the field of emotions and in understanding the social world of children in the second cycle of preschool education (3 to 6 years of age). We summarised next some aspects addressed in Thinking emotions together with the aims to be achieved.

1. Basic emotions: happiness, sadness, fear and anger
2. Complex emotions: pride and envy.

For each of these emotions the following achievements will be reached:

• To recognise and identify emotion in oneself
• To recognise and identify emotion in others
• Correct labelling of emotions
• Causes of emotions
• Consequences of emotions
• Adequate expression of emotions
• Adequate regulation of emotions

3. Empathy
What it is, what it is for, and how to foster it.

4. Social competence
Strategies to make friends, to solve interpersonal problems and to achieve social acceptance.

Method
Participants
A total of 40 girls and boys of 4- and 5-year-olds took part in the study (20 4-year-old children and 20 5-year-old children). Children attended a private kindergarten in the metropolitan area of Madrid and came from middle and upper-middle class social backgrounds. Additionally, two control groups of 4-and 5-year-olds were evaluated (20 4-year-old children and 20 5-year-old children). Children belonging to the control group attended the same kindergarten but were in different classes.

Procedure
To carry out the study, all children were evaluated at the beginning of the academic year. After the evaluation, two classes (one of 20 4-year-olds and one of 20 5-year-olds) started the implementation of the programme. Weekly sessions of one hour duration were conducted from October until June. At the end of the academic year, both experimental and control groups were evaluated again.

Measures
1. Emotional knowledge
To evaluate emotional knowledge two different tests were used. The Test of Emotion Comprehension (TEC) (Pons & Harris, 2000). This test assesses particular components of the understanding of emotion from basic ones, like recognition of emotions on the basis of facial expression, to much more complex, like understanding of moral emotions, understanding of external causes of emotions, understanding of desire and belief-based emotions, understanding the influence of a reminder on a present emotional state, understanding of the regulation of an experienced emotion, understanding of the possibility of hiding an underlying or true emotional state and understanding of mixed emotions.

We also designed a semi-structured interview on emotional knowledge (mainly knowledge on basic emotions, two complex emotions –pride and envy– and empathy). The aim of the interview was to
capture more qualitative data on children’s emotional conceptions.

2. Emotional regulation
To evaluate children’s emotional regulation we used the Emotional Regulation Checklist (ERC) (Shields & Cicchetti, 1997). Parents completed this 24-item rating scale. The ERC items are designed to target processes central to emotionality and regulation in young and school-aged children, including affective lability, intensity, valence, flexibility, and situational appropriateness of emotional expressions.

3. Social competence
Teachers completed the BASC Scale (Reynold and Kamphaus, 1992) to evaluate children’s social competence and adaptive behaviour.
All children evaluated peers’ social competence through sociometric measures. Also, children were individually interviewed following the Peer Interaction Strategies Interview (CEIC) (Díaz-Aguado & Royo, 1995). This Spanish measure was designed to evaluate children’s socio-emotional competences. The interview consists of 4 school situations where a character must think about strategies to solve a social problem.

4. Vocabulary
The Peabody Picture Vocabulary Test provided a measure of receptive vocabulary and an estimate of general cognitive ability.

Results
Data should be analysed and will be discussed in terms of specific improvements on emotional knowledge, emotional regulation, empathy and social competences. Taking into account the limitations of a design such as this, it is possible to guarantee some controls for the validity of the results. The initial equivalence of the groups —control and experimental— will be obtained by comparing pre-test measures. Comparison of post-test measures between groups will show the effect of the intervention programme.
Comparison analyses between the two groups, both for pre-test and post-test measures, will consist in analyses of variance comparing the scores obtained by the control and experimental groups. In addition, hierarchical regression analyses will be calculated to determine what components explain the variability obtained in the tasks evaluating the strategies used in conflicting social situations, entering a group or an act of provocation.
Post-genomic researches have contributed to identify a lot of genetic disorders’ and to understand their diagnosis, treatments and contributions. Advances in genetic knowledge and the multiple of opportunities for counselees to learn about their genetic risk have led to renegotiate notions, such as health and illness and, specifically, the conception of life and procreation which have several implications in ethical issues and in clinical practice. The development and the advances in human genetics creates cultural changes which seem to have more weight in human decision “on life” instead “for life” that previously belonged to the nature (Bartels, Bonnie, Caplan, 1993; Kessler 1997; Knoppers, Joly, Simard, Durocher, 2006).

Over the last four decades, the portion of the patient population who requests genetic counselling services has steadily expanded. The “Ad Hoc Committee of genetic counselling” (1975) describes genetic counselling as “a communication process which deals with the human problems associated with the occurrence, or the risk of an occurrence of a genetic disorder in the family”. Genetic counselling aims to give medical information in order to support decision-making process and risk diagnosis, to facilitate family communication and to educate about potential reproductive options. Therefore, the main goals of genetic counseling is promoting informed choices and facilitating psychosocial adaptation to the hereditary risk or condition (Biesecker, Peters, 2002; Kessler, 1997; Resta et al., 2006). Families learn to cope with and adapt to the medical, social and psychological impact of hereditary and genetic diseases (Resta, 2009): for example, when prenatal or preconception diagnosis is requested, genetic counseling may represent a key step for those who cope with reproductive choices (Kessler, 1979, 1997; Saviolo-Negrin, Cusinato, 1998; Kay, Kingston, 2002; Mcleod, Craufur, Booth, 2002; Kaut, 2006; McCarthy Veach, Bartels, LeRoy, 2007; Nusbaum et al., 2008; Uhlmann, Schuette, Yashar, 2009), making the construction of parental pact (Scabini, Cigoli, 2000) more complex (Zaccaro, Freda, 2009; Zaccaro, Freda, 2010).

This current qualitative investigation focuses on personal meaning and sense-making for counselees who share the experience of genetic counselling for prenatal or preconception issues, attending for the first time a Centre of Cardiomyology and Medical Genetics in Naples. The study intends to explore the system of significance about their request of genetic counseling, their personal experiences of particular risk conditions, treatments and decision-making in order to examine the impact of genetic communication on the counselees’ decision-making processes and how they attempt to make sense of it.

We have conducted 17 semi-structured interviews with counselees who request prenatal or
preconception genetic counselling in a pre-counselling setting; they are recorded and transcribed verbatim. The following key areas were explored with each of the participants: counselees’ motivation of their genetic counseling request; the perception of their genetic situation and its possible impact on their lives and on their reproductive projects; their initial views on testing and their decision-making processes.

Transcripts will be analysed by Interpretative Phenomenological Analysis—IPA (Smith, 1996; Smith, Osborne, 2003; Smith, Flowers, Larkin, 2009).

If a medical diagnosis arises usually from a symptomatic condition, the request of genetic counselling is originated by an unexpected life events, considered as specific developmental tasks, which belong not only to the single/couple, strictly linked to the counselees inclusion in a family at risk which may have greatly affect the normative transition to parenthood. The emerging themes highlight how the awareness of the risk, the cognitive procession of medical information and the emotions, such as anxiety and guilt change on the basis of family transition. The consequent choices becomes very complex, time constrained and emotionally demanding creating further complications in professional practice: it requires genetic counsellor to understand patient situations, to incorporate patient values into clinical practice and to facilitate, to support the informative and decision-making processes.

We suggest that this study may have implications for the planning of joint geneticist/psychologist clinical practice, which might support the counselees’ informative and decision-making processes as goals in the most important definitions of genetic counseling (Fraser, 1974; Kessler, 1997; Biesecker, Peters, 2002).
Teachers need to find ways to engage students in school learning to promote their academic achievement, particularly those participating in minority cultures (César & Kumpulainen, 2009). In mathematics, students’ rejection, including a poor engagement in activities developed within classes, a low positive academic self-esteem, and high percentages of underachievement are problems faced by Portuguese teachers and schools (César, 2009; César & Oliveira, 2005). To overcome them, teachers are asked to fit their classroom practices to the needs, characteristics and interests of every student (César & Ainscow, 2006), facilitating the transitions between their outside cultures and school culture (Abreu, Bishop, & Presmeg, 2002; César, 2009; Zittoun, 2006). By choosing tasks that allow establishing connections between mathematics and real life situations, teachers facilitate the process of giving a meaning to academic knowledge (Bakhtin, 1929/1981). Promoting collaborative work, particularly dialogical interactions (Renshaw, 2004), facilitates students’ knowledge appropriation and their mathematical communication (César, 2009; Perret-Clermont, Pontecorvo, Resnick, Zittoun, & Burge, 2004). Collaborative work allows students to work in their zone of proximal development (Vygotsky, 1934/1962). As Sfard (2001) claims, learning is communicating. Thinking is communicating (Sfard, 2008).

This work is part of the Interaction and Knowledge (IC) research project whose main aim was to study and promote collaborative work to improve students’ academic and personal achievement, and more inclusive learning scenarios (César, 2009). IC lasted 12 years (1994/95-2005/06), including 69 mathematics teacher/researchers and around 600 classes from all over Portugal. The IC comprised three different research designs that raised questions to be explored in each one: (1) quasi-experimental studies; (2) action-research projects; and (3) case studies. In this study we assume an interpretative approach and an action-research design (Mason, 2002). We aimed at promoting students socio-cognitive and emotional development, their mathematics knowledge and mobilisation/development of abilities and competencies. In this paper we focus in a 9th grade class, chosen as a paradigmatic example of students’ knowledge appropriation and teachers’ practices. The main participants were the mathematics teacher/researcher, four external observers and the 27 students. Data collection instruments were: participant observation, students’ protocols, questionnaires, a task inspired in projective techniques (TIPT) and an instrument to evaluate students’ abilities and competencies (IACC). The TIPT, the first questionnaire and the IACC were
used in first week of classes (September) to get an in-depth knowledge of these students. This allowed the teacher/researcher to conceive tasks adequate to students’ characteristics and to decide about the first dyads, as this class was working collaboratively for the first time. Data treatment and analysis is based in a narrative content analysis, from which inductive categories emerged (César, 2009).

The two investigative tasks we chose to analyse and discuss were performed in small groups (4-5 students). One of them introduces the functions graphs’ analysis, in the beginning of the second term (January). Students were given a magazine article referring to reactions of the human body during a marathon race regarding some variables like heart frequency and body temperature. Those variables were illustrated by graphs and a word description. One of the tasks students were asked to perform was to connect small texts describing different states of the runner to the respective stage of the marathon in which they occurred.

The other task introduced the trigonometry chapter, during the third term (April). This class took place in a computers room as students were asked to work with the Geometer’s Sketchpad program. Students were given two sheets: one with some instructions about the use of the computer program and another with the task itself. The tasks consisted on drawing different right triangles with one specific measure for one of the acute angles, measuring their sides and doing a few computations to infer relationships between sides and angles.

The results show that students appropriated the different concepts involved in each mathematical theme and were engaged in the mathematical activities. Some examples illuminate students were able to understand how to work collaboratively, quickly realizing many of its advantages, and becoming motivated to work that way. Students improved their positive academic self-esteem. They developed abilities and competencies like critical sense, responsibility, autonomy, being able to find adapted solving strategies, to argue, conjecture and test their conjectures, and to use accurate mathematical language. Some examples of solving strategies and peer interactions illustrate these points illuminating how teachers’ practices shape students’ performances.

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Globalization and immigration present challenges to educational policy makers, administrators, and teachers that differ dramatically from those faced in the past. Rather than transmitting a generally accepted program of study to a homogeneous community, teachers must prepare diverse learners for participation in academic activities, social practices, and employment opportunities that are complicated by pluralistic local cultures and national norms in the throes of rapid change. School, never an uncomplicated place, is increasingly recognized as the site of intense identity work, where everyone, adults and children, are working to maintain their balance and to construct a coherent sense of self in the face of a relentless assault of information and demands.

The importance of responding to the crisis has been recognized; educational reform is at the top of national and international agendas and significant amounts of time, energy and money have been invested in the effort. Comparative international research has yielded insights that are suggestive, providing a rich picture of the complexity of interacting factors that affect educational reform in a global environment and affording tantalizing glimpses at the possibilities for results. But they also warn of unexpected consequences for sweeping educational policy, and they do not reveal a clear picture of the relationship between policy, program, and practice (Hanson 2000; Astiz, Wiseman et al. 2002; Carnoy and Rhoten 2002). In fact, some researchers have reached the conclusion that mandated curricula and centralized accountability result in the exact opposite of the intended effects (Black and Wiliam 2005) – local norms and organizational culture function to mitigate the intent of reforms. This is not surprising – systems theorists have long reminded us of the law of unintended consequences (Bateson 1999; Capra 2002), but it poses yet another challenge for educators who have promoted school/university partnerships as the most promising way forward for educational innovation (Goodlad 1994).

This paper examines the tensions that arise when individuals with common goals but differing institutional roles collaborate to work on educational innovations. We report on two large action research projects built around school/university partnerships in Denver (USA) and Barcelona (Spain). Balancing the responsibilities of researcher in the university and practitioner in the school has posed unique problems as we attempt to integrate scholarship and schooling into a coherent personal practice that meets the multiple and often conflicting demands of internal and external authorities.
Working from cultural-historical tenets (Cole 1996; Toulmin 2001) and framing our work as systems change (Bateson 2000; Capra 2002), we acknowledge the reciprocal and dynamic interaction of individual identity and institutional history (Holland, Lachicotte et al. 1998; Rogoff 2003). We also recognize that serious, sustained attempts at educational innovation necessarily provoke disturbances in individuals’ sense of equilibrium and in the organizational functioning. Because schools and universities and the individuals and groups within them are loosely coupled and reciprocally influencing systems, we have developed an approach to action research that acknowledges the complex interactions of factors at different levels of scale (Allen and Hoekstra 1992; Toulmin and Gustavesen 1996; Flood 2001). The projects thus recognize that the task of improving instruction is the shared responsibility of everyone involved, not the sole responsibility of teachers (Senge, Scharmer et al. 2005; Wagner, Kegan et al. 2006). Fundamental to our approach, therefore, is the assumption that everyone will explicitly address the constructed nature of their own perceptions of teaching, learning, and educational processes. We exploit the insights of constructive-developmental psychology as we construct collaborative work sessions around recursive efforts of problem-solving (Kegan 1994; Kegan 2000; Kegan and Lahey 2001).

It is not difficult to get agreement across a wide range of school and university personnel about what needs to be done, but we continue to struggle with differences in interpretation and implementation of edicts, and we discover at every turn that institutional rules, regulations, and norms confound interactions between school and university participants. It seems clear that explicit focus is required – a meta-conversation among participants – to identify and articulate common and competing interpretations of policies and programs so that agreement can be reached on how to improve the collaboration. The purpose of this paper is to examine the pressures that complicate inter-institutional collaboration, and to explore ways of framing the interaction so that productive exchanges can occur and goals achieved.

The research question addressed is, “What changes would be required in the particulars of school and university life for sustainable innovation to be possible?”

We have developed a mixed methods approach, with an awareness of the importance of the needs of different audiences – quantitative data for policy makers and administrators, and qualitative assessment of learner gains for teachers. And we have operationalized the abstraction of individual agency and organizational scale by applying Gregory Bateson’s (Bateson 1999) characterization of context: “a collective term for all those events which tell the organism among what set of alternatives he must make his next choice” (p. 289). Taking into account the complexities of time (Lemke 2000), we attempt to identify the rationale and authority for decisions and to create decision-making conversations in which individuals are able to explore hitherto unexamined
options in decision-making – to expand the number of sets of alternatives they consider as they engage in daily decision-making. We hope by doing this to avoid the situation in which we typically find ourselves – of merely receiving mandates from above and passing the pressure down. This constitutes an attempt at interrogating our collective memories (Wertsch 2005) in an effort to discover creative ways to solve problems. We see this as an elaboration of elements of expansive learning (Engeström 2009).

Significant elements of institutional and personal constraint have emerged from the research and serve as the “sets of alternatives” explored in decision-making:

- Policy, laws, contracts
- Programs, textbooks, curricula
- School and university rules, regulations
- Realities of time and space
- Individual rhythms and routines
- Roles and responsibilities
- Core values

The presenters report on progress to date and describe ways of orchestrating conversations that permit individuals to engage with personal, interpersonal, organizational and cultural constraints on professional development.
The principles of inclusive education were assumed since the Salamanca Statement was signed (UNESCO, 1994). Students characterised as presenting special educational (SEN) needs were the most mentioned, although the scopes of inclusive education are broader (César & Ainscow, 2006). Its principles can be applied to each student, challenging the educational systems throughout the world to develop educational formal settings, scenarios and situations that befit each student’s characteristics, interests and needs (Allan & Slee, 2008; César, 2009; César & Santos, 2006).

In Portugal blind students experience barriers in their access to the academic achievement (Santos, 2008; Ventura, Santos, & César, in press). According to Vygotsky (1934/1962), social interactions are crucial elements in development. They also play an essential role to give students a voice (César, 2009; Wertsch, 1991). Their role is even more important for blind students (Ochaita, 1993), as their main communication vehicle is audition. Social interactions were extensively studied during the last years. But research was mainly focused on the mainstream students (Perret-Clermont, Pontecorvo, Resnick, Zittoun & Burge, 2004; Renshaw, 2004). Due to blind students’ characteristics a clear focus on them and on their interactive interplays is needed.

In Portugal, Mathematics is a subject in which many students fail (César, 2009). Many reject it and believe they are unable to learn it (César & Santos, 2006). As Ollerton and Watson (2001) claim, there is a need for an inclusive mathematics education. Blind students need particular interactive patterns (Santos, 2008). They read and write Braille. Thus, their mathematical symbols are not always represented the same way as those for non-blind students (Santos & César, 2007). Blind students’ teachers should be aware of the Braille mathematical writing to communicate with them in a befit way (Santos & César, 2007; Santos, Ventura, & César, 2008; Ventura, Santos, & César, in press).

This study is part of the project Interaction and Knowledge whose main goals were: to study and promote peer interactions in formal educational scenarios; and to promote more inclusive and intercultural educational settings. This research project lasted 12 years, included 69 mathematics teachers and more than 600 mathematics classes. We focus in those attended by blind students (N=11) included in mainstream schools. The research questions we address are: (1) Which are the facilities and the difficulties that blind students experience in order to have access to the cultural
mathematical tools? (2) What can be done to facilitate their access to them? We assumed an interpretative approach (Denzin, 2002) and developed an action-research project (Mason, 2002). The participants were the blind students, their classmates, their mathematics teachers, and significant others (colleagues, friends, families, other educational agents related to these students). These blind students attended classes from 7th to 12th grades. The data collection instruments were the participant observation, questionnaires, tasks inspired in projective techniques, an instrument to evaluate students’ abilities and competences, documents and students’ protocols. An in-depth and successive narrative content analysis was developed from which inductive categories emerged (César, 2009).

We focus in the findings that emerged from the analysis of blind students’ performances and interactive interplays during mathematics classes. We analyse some interactive patterns and also some examples of solving strategies in which we realise the particularities of the Braille writing. There was verbal information complemented in order to respect the blind student characteristics. Some complementary information was through movement and touch adapted to befit their needs. But there were also adaptations in the tasks to allow the blind students to participate in the same mathematical activities performed by their peers. Thus, the results illuminate how dialogical social interactions and collaborative work can contribute to a more inclusive mathematics education and to facilitate blind students’ access to the cultural tools of mathematics.

References:
1. Introduction

The general aim of this paper is to contribute, both theoretically and empirically, to the understanding, in a micro-genetic domain, of the relationship between knowledge and human action. Our theoretical starting point for addressing this issue is the Cultural-Historical Psychology. From this perspective, we conceptualize knowledge as cultural mediators. Vygotsky (1997) distinguished two main kinds of mediators, psychological instruments, or signs, and technical instruments, or tools. “Tools” are instruments used with the function of controlling the environment. “Signs” are instruments used with the function of controlling the human behaviour. The attention of the present paper is specifically paid to the development of signs. In a micro-genetic domain, Vygotsky (1986) distinguished two types of signs: spontaneous concepts and scientific concepts. Both are different structurally and functionally. From a structural point of view, spontaneous concepts refer to objects of reality directly —e.g. my brother. From a functional point of view, these concepts can be easily and quickly used in every day life but its use is hardly conscious. Instead, scientific concepts refer directly not to specific objects of reality but to a set of signs which are semantically related —e.g. the concept of brother, in general. These concepts are inserted in a system, and this easily permits a conscious use, but they are much more difficult to use easily and quickly in every day life.

In this paper, we will try to theoretically introduce another type of concept in a micro-genetic domain which we call practical concept. We will argue that practical concepts are structurally and functionally different than both spontaneous and scientific concepts, and we will try to show these differences and some aspects of the nature and development of practical concepts by means of empirical data.

2. Practical concept and Situation in CHAT

The Leontiev’s and Engeström’s development of Cultural-Historical Activity Theory are not focused on a micro-genetic domain. From these two approaches, because of their genetic domains (phylogenetic and historical-cultural), the specific conditions in which a specific action takes place are not considered and studied in detail. However, if we try to understand action in a micro-genetic domain, such conditions must be carefully understood. Several ethno-psycological approaches have
addressed this issue (Scribner, 1984; Lave, 1988; Hutchins, 1991; Suchman, 1987) and, although setting out from different psychological perspectives, they share one crucial finding: the nature of a specific action can only be understood if it is considered in relation to the specific circumstances in which such action takes place—that is, action is situated. In our view, this idea presents suggesting connexions with the Dewey’s (1991, p.72) construct of “situation”. From this view, the circumstances in which a practitioner acts would not be seen as a sum of discrete objects, elements, conditions, but as a unitary whole.

Dewey and Vygotsky are based on a similar basic epistemology, but mediation is much more stressed in Vygotsky’s proposals than in Dewey’s (Miettinen, 2006). Since both are dialectic in a very similar way, we propose that CHAT can agree that, in a micro-genetic domain, circumstances of action constitute a unitary whole, a “situation” in a Deweyan sense. If this statement is accepted, it is necessary to define the place of the construct of situation in the CHAT frame. This theoretical location is not the aim of this paper, it will be discussed in another place (Clarà, in preparation). Here we will only mention the conclusion of this discussion: We propose that the situation is the specific expression in a micro-genetic domain of an activity system (or an interaction of several activity systems) which exists in a historical-cultural domain.

From the Vygostky’s scheme, if situation exists as object in a micro-genetic domain, the relation between subject and situation is mediated by signs. However, the signs which refer to situations should be structurally different than both spontaneous and scientific concepts because of the holistic nature of situations. Such concepts are called here “practical concepts”. In the next section we present an empirical study aimed to examine the specific nature of practical concepts.

3. The nature of practical concepts: an empirical study

Aim
The aim of the study was to identify practical concepts in use in a micro-genetic domain, to examine their nature, their development, and their differences with spontaneous and scientific concepts.

Participants
We conducted a case study with two cases. In each case the participants were one teacher student in his practice period in a school and his tutor (mentor). Data consist of the conversations between the two participants during the four months that the practice period lasted.

Analysis
The general procedure was discourse analysis of the conversations. The unit of analysis was the
illocuative act (Sinclair & Coulthard, 1975). Once the units were identified, operational criteria were applied in order to determine if the discursive act was referring to a situation or not. When units referring to situations were identified, a grounded theory procedure (Strauss, 1987) was carried out and different practical concepts were identified. These practical concepts were then examined in order to understand their structure, their functioning and their development.

Results
Our analysis shows three main results:
1) Practical concepts seem to be structurally different than spontaneous and scientific concepts: They refer directly to reality (unlike scientific concepts), but to the relations between specific objects of reality (unlike spontaneous concepts), and they refer to them as a whole.
2) Several levels of generality of practical concepts are identified; however, it is not a generality based on abstraction, but based on extension: More general practical concepts refer to broader situations than less general practical concepts.
3) The development of practical concepts implies that practitioner can move faster and easier between practical concepts of different levels of generality.
As a transitional period between childhood and adulthood, adolescence is considered to be a sensitive stage of life in which young people face challenging developmental tasks focused on identity exploration, negotiation of autonomy and preparing for life academically, vocationally and socially. It is commonly described as a period of “storm and stress”, characterized by increased socio-emotional problems, frequent conflicts (especially with parents), psychological instability and increased propensity to risky behavior. Studies on youth from different parts of the world (Jeffrey & Mcdowell, 2004) show that, in last decades, the transition to adulthood has become increasingly complex and troublesome, due to global social, economic and political changes (i.e., economic recession, high rates of unemployment, crash of traditional familial relationships, extended periods spent in formal education, delays in leaving parents’ home, etc.).

The general aim of our study was to explore whether young people in Serbia experience more intensified problems in tackling developmental tasks typical for this transitional stage of life, as a result of growing up within context of profound economic crisis, prolonged social transition and post-war troubles. In this paper we present some results from that larger study, focusing on following research questions: (1) what the problems that young people in Serbia are dealing with are, how they perceive the heaviness of those problems and effectiveness of their coping strategies; (2) how they evaluate the quality and supporting capacity of their experiences with parents, peers and school; (3) if there are significant age, gender, school type and regional differences in adolescents’ perception of issues addressed.

The research was conducted on a representative sample of 2419 adolescents, stratified by the region (Belgrade, North, Central and South Serbia), age (first to fourth grade of secondary school) and school type (gymnasium and vocational schools). We have applied the composite instrument that included a questionnaire part and a part in which subjects were asked to describe one working and one weekend day, stating where, who with and in which activities they spent their time, with qualitative comments on their experiences regarding anything they assumed to be relevant.

The findings obtained are to some extent surprising and inconsistent with our general assumption that profound and prolonged social crisis would probably have detrimental effects on young peoples’ development, their sense of self and actual well being. The problems that Serbian adolescents are facing mostly correspond to typical concerns of young people from other socio-cultural contexts. The results also show that vast majority of those problems are not perceived as particularly big or harmful by Serbian adolescents, or that they have developed an effective
strategies in dealing with them. However, this general picture is in accordance with one of the most striking findings of cross-cultural studies, suggesting that most young people worldwide have rather optimistic view on their actual situation and future, no matter if socio-economic conditions they grow up in are stable, rapidly developing or restrictive and rather grim (Brown & Larson, 2004). It seems that Serbian youngsters are not exception, despite of common belief that devastating effects of prolonged social crisis have increased pessimism, anomie, depression and feelings of frustration among young generation. The results show that 22% of young people in Serbia respond to problems in that manner, which is in accordance with general finding that about 20% of adolescents experience more serious psychological disturbances, regardless of particular characteristics of developmental context.

Young people in Serbia are most concerned with three problems (meaning that third or more adolescents find them to be big or relatively big): the lack of interesting places to go out (46%), the lack of time for leisure activities (41%) and boredom (35%). Although these results may seem contradictory, young people report to be overloaded with activities related to school and learning, while, at the same time, most of them complain about boring classes, overloaded and old-fashioned curriculum and pressures to acquire knowledge with little functional value. On the other hand, results also show that, in their leisure time, young people are predominantly engaged in rather escapist, receptive and hedonistic activities (mostly watching TV, playing computer games and unstructured hanging out with friends), which can hardly provide the sense of meaningful identity, fulfillment and personal growth. Since the problem of boredom, in that sense, is not trivial as it may seem, important practical implication of our findings is a call for enriching cultural offer and providing youth clubs free of charge, especially in the less developed regions of Serbia.

The results compellingly reveal that family and peers serve as important supportive systems in young people’s development, questioning common beliefs regarding today's youth alienation from parents and their reduced sociability. Surprisingly few adolescents (22%) report to have bigger problems or conflicts with their parents, and majority of them are completely (48%) or mostly (45%) satisfied with their relations with parents. Although they don’t spend much time in joint activities with their parents (average is between 1 and 2 hours per day), two thirds of adolescents claim that family is an important source of support and guidance. Only 14% of young people have bigger problems in peer relations, less then one fourth (20%) tackle with greater problem of loneliness, and 86% report to have peers whom they trust and rely on.

Consistent age and gender differences are found: girls and senior high school students systematically perceive almost all problems as harder and supportive capacities of family and peer-network as lower. Gender differences obtained are in accordance with general trend for female
adolescents to report more frequent and stronger emotional reactions to stressful events than males, as well as greater dependence on the emotional support and approval of others and generally more negativism in perceiving themselves and reality (Frydenberg, 1997). High school seniors, unlike younger adolescents, show greater sensitivity to problems addressed probably because they are on a very threshold of early adulthood, thus closer to facing the gloomy reality and challenges of future.
232. The different conditions and contexts for pre-service teacher learning in one school in the
UK.

Douglas Alaster

Research Rationale

The situation in Initial Teacher Education (ITE) in England and Wales with ‘minimum
competency models of teacher training and ‘non-universitised’ alternative training routes’ (Smith
and McLay 2007, 39) is seen as an isolated position in Europe with regards to pre-service teacher
learning. Since 1992, initial teacher education in England has been essentially school-based (DES
1992): the regulations have required 24 weeks out of the 36 week Postgraduate Certificate of
Education (PGCE) course to be based in schools. This shift to school-based teacher education in
England has meant that partnerships have developed between university departments of education
and groups of committed local schools, with different interpretations of partnership emerging as
political priorities change (Furlong et al. 2009). Therefore, schools have been given some direct
responsibility and greater funding for training rather than just hosting pre-service teachers. Little
research has been undertaken on how schools contribute to pre-service teacher learning now that
responsibility for this is shared more equally with higher education.

Research Focus

This research features the PGCE pre-service training course which is the most popular route into
secondary school (11-18 year olds) teaching in the UK (DCSF 2008). The overall structure of the
PGCE is centrally imposed on Higher Education Institutions by government policy, and
consequently may appear to encourage a consistent approach to ITE. However, this research shows
how the similar features of the course still belie the contested purpose of ITE work even within the
same school and university partnership, and suggests why this is the case.

It is widely recognised from research done in secondary schools that subject departments play
significant roles in the lives of teachers, and for pre-service teachers when learning in their school
placements (Lacey, 1977; Siskin, 1991; Busher & Blease, 2000; Donnelly, 2000; Wildy & Wallace,
2004). Therefore, the research focuses on ITE activity within secondary school subject departments.
Researching what participants do in relation to ITE is important in as far as exploring important
aspects of ITE, but this does not necessarily develop understanding of the reasons behind
participants' actions. This is where some of the ITE literature falls short, and explanations and
understandings of why ITE works in the way it does are only partial.

Research Methods

Using data from a year long ethnographic study of an English university PGCE partnership in one secondary school, the learning opportunities of pre-service teachers were compared between four school subject departments (Geography, History, Modern Foreign Languages and Science). These departments hosted 15 PGCE pre-service teachers over the school year. The two research questions asked were:

1. What are the opportunities for pre-service teacher learning as constructed and reconstructed in different departments in one school?
2. To what extent and why are these learning opportunities constructed differently?

These questions were addressed through participant observation of 62 meetings between pre-service teachers and their mentors (school teachers with specific supervision responsibility for pre-service teachers), 27 meetings between university tutors, mentors and pre-service teachers, 52 lesson observations with feedback sessions from mentors, 61 interviews with all participants involved in ITE and numerous occasions observing social interaction in subject department ‘team rooms’. The data set comprises extensive field notes written in situ, transcripts of recordings of formal meetings such as interviews and numerous documents.

The CHAT framework

The subsequent data analysis was informed by Cultural Historical Activity Theory (CHAT) (Cole, 1996; Engeström, 2000). The potential strength of a CHAT analysis in trying to address the question of why learning opportunities are differently available to pre-service teachers in subject departments is that it focuses attention on learning as a social phenomenon, a process that takes place within social systems that have evolved culturally and historically and that offer participants in those systems certain physical or psychological tools with which to work on a shared object. A central CHAT concept in this analysis is the idea of an activity's object. This is often described as the true motive of an activity (Leont'ev, 1981). This is evident because it is true to the specific practices in which it is located. Nevertheless, an object is always open to negotiation in an activity like initial teacher education where participants have different opinions and intentions with regards to the activity.
Motives were revealed in how participants interpreted and responded to the object. For example, some teachers saw ITE as a way of developing new ways of teaching and learning in the classroom with a wish to extend their own pedagogical knowledge, whilst others primarily wanted to ‘give something back' to the profession and greatly enjoyed working with new teachers. Therefore, interpretations of teacher education called forth responses to the objects of activity being worked on with the pre-service teachers. Participants rarely spoke in terms of how the object of ITE activity was constructed. However, for the researcher, understanding how participants saw the object was possible by analysing how participants appropriated tools and how they worked within the departments' ITE activity systems. By ‘capturing' the object of ITE activity (activity constantly changes and therefore the object is always in flux) the research revealed aspects of social practices, and supported interpretations of the ethnographically generated data.

Findings
Findings suggested that there were different conceptions of learning in the departments and between participants, but most importantly the analysis indicated why these differences existed. A broad understanding of context was gained through the ethnographic approach and from the use of the CHAT analytic framework, which analysed cultural, social and historical aspects of ITE activity in the school departments.

Recommendations are outlined for how ITE university/school partnerships can broach inevitable differences in how participants see the object in ITE activity. Tensions need to be recognised, seen as productive and negotiated in order to enable pre-service teacher learning opportunities. Because ITE activity is constantly open to change, this can be welcomed as an opportunity for ITE to contribute to the learning of all participants in the ITE activity system, both those working in the school and for the pre-service teachers participating in the PGCE course.
Inner speech is a principal issue of psycholinguistic research. It is an essential and important process that interrelates speaking and thinking, and therefore speech with higher mental functions; it is essential for both communicative and cognitive functions. The following paper highlights theoretical as well as empirical research on inner speech. The paper is divided into three parts: theoretical introduction of inner speech, empirical study by the method of thinking aloud, and an outline of a new concept of inner speech as conclusion and discussion of the results. The aim of the paper is to provide new insights in the concept of inner speech.

First, a theoretical description of inner speech will be done, and inner speech will be connected with problem solving. Ideas about inner speech put forward by Humboldt and Steinthal are mentioned, but the concept of inner speech is embraced by various Soviet psychologists which developed own versions of a theory of inner speech; among others there are especially the ideas by Vygotsky (1934/1987), Luria (1982), Ananjew (1963), Galperin (1967a+b, cf. Haenen, 1996), and Sokolov (1971, 1972). Vygotsky (1934/1987) founded a widespread concept of inner speech, and this concept is the starting point of theoretical and empirical consideration. Vygotsky was concerned with the genesis of inner speech as well as its semantic and syntactic structure. His concept constitutes the background for all continuance, and therefore is fundamental and groundbreaking for all psycholinguistic research. Luria (1982) extended Vygotsky’s view by three aspects: (1) Investigation of inner speech regarding its control function, (2) inclusion of neurophysiological processes regarding psychological activity, which correspond in particular with language disturbances after brain-damage, (3) consideration of syntax during language acquisition (language production and reception). Luria emphasizes Vygotsky’s view that inner speech plays an important role for intellectual and behavioral regulative functions. Ananjew (1963) states his own theory of inner speech in the context of his theory on the psychology of sensual realization. Apart from the control-function of inner speech he singles out that inner speech is important for the development of personality. Galperin’s theory (1967a+b, cf. Haenen, 1996) is particularly interesting in the context of learning theories. His representation of the development through stages of mental actions describes an extremely plausible model of interiorisation. He explains how inner speech could be formed by uttered speech. Acting with an instructor, a good insight into action, and the correct linguistic designation of the actions lead to an internal form, favoring the automation of actions.
Finally, Sokolov (1971, 1972) has a somewhat different view on inner speech. He distinguishes between inner speech, which serves as a tool for thinking, and unfolded inner speech (inner talking), which is relevant for speech production and comprehension. Thus, Sokolov connects inner speech not only with thinking, but also with speech processing. He states that the study of inner speech has been predominantly theoretical in character; therefore, he was highly interested in an empirical study of inner speech.

Then, inner speech is connected with problem solving research. It is interesting that there are only a few theoretical perspectives connecting speech with problem solving. The relevance of speech involved in higher mental functions is really unknown and therefore empirical studies are needed to understand and define the role of speech in problem solving.

Second, an empirical study on inner speech is demonstrated (Werani, 2009). It is very difficult nearly impossible to approximate inner speech, because speech is observable when it is spoken or written. Vygotskij argues that the analysis of egocentric speech is a kind of key to approximate inner speech, and egocentric speech is obvious when humans solve problems. Therefore, methodically the method of thinking aloud is chosen as the most powerful tool to examine the nature of inner speech and problem solving. It is not a method that is without its problems, but the whole method is well reflected. The root of the method is that subjects were undertaken a problem solving task (Raven-Matrices), and they are instructed to tell anything they think about during the problem solving process. The thinking aloud protocols were carefully coded and analysed in both quantitative and qualitative ways. To compare the results, two other groups were examined without the method thinking aloud to control time needed and mistakes (normal subjects (without any instruction to use speech) and aphasic subjects (not able to use speech any more because of their speech deficits)).

To highlight aspects of the interrelationship between inner speech and problem solving as one of the higher mental functions, three topics out of the whole analysis are chosen and presented in the following:

*Analysis 1: About the coherence between (inner) speech and problem solving*

The analyses focus on time, mistakes and categorised problem solving speech. Both quantitative and qualitative results were presented. First results about the coherence between (inner) speech and problem solving can be shown: first, using speech during problem solving causes better results, and second, the difficult the problems are the more time is needed to solve them, and the more mistakes are made. Third, there is no significant correlation between time needed and quality of solution results.
**Analysis 2: About the difference between good and bad problem solvers**

Differences between good and bad problem solvers will be shown by speech categories and speech style. A primary result is that good problem solvers have a special qualitative manner of speech, especially in speech categories. They use more problem solving speech than bad problem solvers. The bad ones therefore use more formal speech. Furthermore, individual difficulties in problem solving are analysed (it is a special differentiation of each problem solving course by every subject), and further differences between good and bad problem solvers can be demonstrated. It can be argued that good problem solvers possess other function through speech than bad problem solvers.

**Analysis 3: About four speaking-thinking-types**

Beside the individual analyses general patterns are found by a visual analysis. The profiles of the subject’s categories were compared and divided into four different groups with likewise practice pattern; they are named pragmatics, chatty-ones, doubter, and tight-lipped-ones; every group shows an own style of speaking and thinking by handling the problems. These results are also backed by quantitative and qualitative results.

The empirical study shows that speech is connected with problem solving processes. Speech causes the solution process, and that is interesting – its quality depends on the quality of speech. Therefore speech can bring the problem solving process forward, or derange it. That is an important and new point of view.

Third, based on theoretical considerations and on the results of the empirical study several new aspects appear. Especially topics of inner speech for psycholinguistic theory will be summarised. Therefore, it is necessary to enter into questions like What means interiorisation? It can be concluded that interiorisation is not a simple one-way transport of knowledge from the outer to the inner world, but involves a continual fluctuation from outer to inner processes and vice versa. Therefore, interiorisation and exteriorisation are both necessary for high quality speech. There are obvious differences between good and bad problem solvers concerning their speech. Another question to discuss is Is inner speech an independent form of speech? The results of this study suggest that inner speech has no own form, because abbreviation or predicativity exist in oral speech, too. This is a point to differ with Vygotsky’s opinion and therefore to be discussed. A topic in this final discussion is to reflect on a new model which enter into the question What means: to bring something into speech? Three levels were proposed: ‘To bring something into speech’ (1) stands for the process to objectify a thought through words, functions are stabilisation and regulation; (2) stands for the possibility to reflect about something; to be able to reflect thoughts
they must be objectified before; (3) stands for cooperation, because everything is integrated in socio-cultural contexts, in the world of everyone. The final question of all is How do subjects reach self-understanding by inner speech? And a possible answer is that subjects reach self-understanding and personality because they can use qualitatively rich speech to describe and objectify their own processes of thought in words.

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1 STATE OF THE ART OF INTERCULTURAL TRAINING

1.1 Not New at All: The Crisis of the Discourse

Nowadays, we experience a quantitative explosion of the intercultural competence discourse, including ICT, among others. More than ever, this topic is popular. Worldwide entries of ‘intercultural competence’ on the internet went up from 58 in 1999 to over a million in 2007 (Bolten, 2007).

However, assumptions that this would also have an impact on the quality of ICT programs, are unsubstantiated: The latest meta evaluation results in the sobering and little substantive statement, that intercultural training is only partially effective – least on the level of professional competence (Mendenhall et al., 2004). Four years later, Brislin still concludes: „With the certainty of increasing intercultural contact, it is reasonable to ask the question 'Are we well prepared?' – often, the answer is 'No.'“ (Brislin, 2008). The crisis of intercultural competence discourse, which actually was stated already in 2002 (Castro Varela, 2002), is not over yet.

1.2 Weaknesses of the Discourse: Unconcern

Within in ICT discourse, three critical aspects assign reasons for its qualitative stagnation:

1. The ICT discourse is marked by methodological unconcern. Common paradigms of research don’t pay much attention to the fact, that ICT is already transdisciplinary and hence needs a special approach. Consequently, either disciplinary research comes short or theories are mixed on the basis of practical eclecticism (e.g., see Kumbruck & Derboven, 2009, Weidemann et al., 2010).

2. The ICT discourse and practice is marked by theoretical unconcern. Seldom the scientific discourse is based on theoretically grounded research results (Rathje, 2006); moreover, the demand of in-depth research is not even addressed (Scheitza, 2009). Therefore, arguments are based on pragmatism.

3. The ICT discourse is marked by cultural-historical unconcern, since explanations of the general human enculturation and learning remain unconsidered. For that, ICT can only be seen as a training type, without recognizing the natural process from which insides could be drawn (e.g., see Bennett et al., 2004)

1.3 Research Questions and Aim of the Study
Regarding these weaknesses, it appears necessary and long overdue, to contribute to the fundamental research of ICT with a methodological and theoretical study, including considerations of a reasonable approach, as well as the generation of consistent alternative assertion structures. In detail, the following research questions (rq) were aimed to be answered:

1. Based on the question, how a sound methodology adequate for ICT can be approached (rq1), this study asked,

2. how a thorough theoretical investigation can be accomplished systematically (rq2), that is able to capture ICT in its societal context (rq2a) as well as its positioning in the field of societal changes and future demands (rq2b).

3. According to the third weakness, the question is raised, how ICT can be reinterpreted as a specification of a general cultural-historical process (rq3).

The overall aim was to gather the results in a theory of ICT that is applicable for theory and practice.

2 METHODOLOGICAL AND THEORETICAL STUDY

2.1 Methodological Approach: Vygotsky + Judin

It is common knowledge, that at least postmodern societal challenges go far beyond disciplinary research fields and need to be approached like such for reasonable solutions (Mittelstraß, 2005). Since ICT already is in the intersection of several scientific disciplines and areas of practice – e.g. psychology, economics, cultural science, consultancy, education, social work – a transdisciplinary approach is mandatory. Though, this is demanding in two ways. Transdisciplinary approaches are at the risk of eclecticism, as soon as the basic assumptions, which lead to paradigms, are disregarded. This has obviously been the case for the ICT discourse. Consequently, the synthesized disciplines, theories and methods are in danger to be contradictory and thereby, their explanatory power becomes neutralized. Hence, this study follows Vygotsky’s recommendation in the use of heuristics, which are build in a basic theory with its consistent basic assumptions (Vygotskij, 1985).

Transdisciplinary approaches are at the risk of disregarding their scope of explanatory power. Therefore, it is considered crucial, to discern the different methodological levels, since assertions on the different levels have a different scope. These are philosophical assumptions, general science principles, disciplinary theories and the methodical level (Judin, 2009).

By this approach, the first research question (rq1) is addressed.

2.2 Theories + Methods: System, Media, and Cultural-Historical Theory
For a systematic investigation of rq2, theories were chosen that are located on the methodological level of general science principles.

Newer system theory (Luhmann, 1988) has been used for the investigation of ICT within its societal context, since this particular theory can analyze systemic coherences elaborately. Four main dimensions where extracted and transformed into heuristic principles: ‘leading difference’, ‘process’, ‘complexity’, and ‘self reference’ (rq 2a).


The overall theory, used to review ICT as a specification of a general cultural-historical process, is the cultural-historical theory, as it was introduced by Vygotsky (e.g. Vygotskij, 1992, 2002) and Leont’ev (e.g. Leont'ev, 1982, 1986). It was assumed suitable for the ICT problematic, since it provides explanations concerning the cultural-historical processes of enculturation and learning (rq 3).

The heuristic principles were build in the cultural-historical theory, which altogether provide a stringent transdisciplinary paradigm. Within this paradigm, the revision of the empirical and theoretical data was realized.

2.3 Object of investigation: Empirical and Theoretical Data

Five areas of ICT discourse could be identified: (a) culture, (b) intercultural competence, (c) intercultural theories of enculturation and learning, (d) intercultural training methods, and (e) intercultural training evaluation. Within these five areas, 48 critical contributions were analyzed. A total of 400 publications have been investigated, including a broad spectrum of recent critics.

3 RESULTS + DISCUSSION

3.1 Shift of Foci: Foundations of a Theory of ICT

As a result of this study, the focus has shifted from a rather technocratic understanding to supporting social dynamics:

a. From 'culture' to the 'advantages of diversity': Since globalization and societal segmentation further radical multicollectivity, culture as a coherent reference point is questioned and diversity as
a broader concept preferred. To use and get used to its advantages, diversity should be embraced, already within the formation of deliberately divers ICT groups, e.g. concerning work fields and hierarchies.

b. From 'intercultural competence' to the 'familiarity with insecurity': New situations can seldom be handled only with ‘canned knowledge’. Therefore abilities to unlearn, meta talk and to build trust are considered crucial.

c. From 'intercultural theories of learning and enculturation' to 'life styles as option for personal enrichment': Instead of supposedly predictable developmental models, concepts of facilitating interactivity and immediacy in different forms within the organization have been found crucial.

d. From 'intercultural training methods' to the 'activation of democratic structures and network resources': Expert based outsourced training has not proofed efficient outcomes. Since isolation is a major reason for inefficiency, socially divers networks inside and outside the job context need to be integrated and should provide constantly accessible resources.

e. From 'intercultural training evaluation' to the 'establishment of sustainability': Economic monitoring practices don’t guarantee desired training results, and even aren’t able to measure them. Shifting to sustainability concepts concerning knowledge, experience and, most relevant, social involvement will probably have longer lasting impacts.

3.2 Discussion

Although the research questions could be answered, the aim of this study was accomplished, the findings appear promising and the quality criteria for theoretical and methodological research could be met – the empirical testing is to come and further questions certainly have to be discussed.

Concerning the methodology, this approach has been constructed only for the systematic assessment of the ICT discourse. Therefore, the scope of its generalizability could be assessed for further research topics. Nevertheless, its efficiency and reasoning needs also to be compared with alternative methodologies.

Concerning the theories chosen in this study, they have been assumed to be most explanatory. The advantage and disadvantages of other theories, e.g. the 3rd generation of activity theory or postmodernism theories, should be discussed.

3.3 Conclusion

This research contributes to closing the gap of methodological, theoretical and cultural-historical unconcern in the ICT discourse. By rethinking ICT from its basic assumptions to its practical consequences, this study offers a new self-understanding of ICT, which is able to grasp postmodern
challenges as opportunities for individuals and collectives – and by doing so overcome the crisis of ICT.
Following The Salamanca Declaration in Europe and the Individuals with Disabilities Education Act in the US, children with disabilities should be offered developmental conditions at as good a standard as children without disabilities. For example, they should be included in mainstream schools and mainstream social practices in general. However, in many school practices and in much of the research about children with severe disabilities, they are approached as qualitative different from children without disabilities. The expressions or acts of children with severe disabilities are interpreted out of context as behaviour produced by a defect brain, for example as compulsive or oppositional acts with no bearing to the ongoing activities. This dominant approach to children with disabilities is grounded in the medical model of disability that assumes a direct relationship exists between the biological defect and the disability: The child with for example cerebral palsy has a brain lesion, which gives rise to specific or general learning impairments. In order to understand the development of a child with a disability, an approach is advocated which has its major focus on how different syndromes or diagnoses are caused by particular aetiologies, which influences the development of the child, causing for example physical impairments, perceptual impairments and cognitive impairments.

From the cultural-historical point of view, this understanding of disability fails to notice how a child with a biological defect has to act in social institutions first and foremost adapted to children with normal psychophysical constitutions. The primary biological defects such as sensory, organic or neurological impairments have an impact on the development of perceptual and higher cognitive functions and affects the ability of the child to participate in social activities and learn relevant social skills and cultural tools. This means that the primary biological defects influences on the development of the child as a whole, including social development and the learning of cultural tools, which often result in secondary defects (Vygotsky 1993). This process of disontogenesis implicates that the presence of a defect or disability in a child reorganises the development of that particular child as a whole. The often problematic development of children with disabilities is the result of a mismatch between the biological and psychological development of the child and the structure of cultural forms the child is living in (Vygotsky, 1993).

The dialectic approach to understand disability justifies treating children with different types of
disabilities as a group. From this point of view, disability is considered as a condition for living, for learning and for developing, along with other social conditions. The aim of the paper is to create a deeper understanding of the similarities and differences between children with and without disabilities. How does severe disability as a condition for living impact on the learning and cognitive development of the child with the disability? It will be done by looking at both similarities and differences in the development of communication between children with and without disabilities and trace how much of the difference it is possible to reframe within general theories of learning and development. The general idea is to enable a discussion about the dialectic between neurobiological, psychological and social aspects of child learning and development, and how cultural-historical conditions for living affect learning and development along with biological conditions such as those that cause cerebral palsy and other similarly severe disabilities.

The basic premise of the paper is that learning and thinking are subjective activities, guided by personal motives and constrained by both practice frameworks and by neurobiology. The relation between the child’s cognitive functioning and the environment of the child can be understood as a interactive dynamic, in which the child’s cognition is constrained by practice framework of cognition (Salomon, 1993). Following recent research in neural plasticity (Stiles et al., 2005; Stiles, 2000; Juenger et al., 2007), the biological base is no longer regarded as stable, but seen as changeable in response to the activity of the child. In order to incorporate the dynamic nature of the brain lesion in this understanding of the development of a child, the brain lesion can be considered a neurobiologically based regulator of the developing child in its environment.

Through analyses of the role of neurobiological regulators vis a vis the cognition of a child and the participation of a particular child in different activities that affords and develops particular cognitive activities and processes, it is shown how activities can create developmental possibilities or social constraints that feedback on the child’s individual cognitive activity and development. The problematic mismatch, which arises when the child with a significant brain lesion have to act in practices cultivated for typically developing children, might constrain cognitive and neural development through its impact on the possibilities of the child to participate in activities. It will been argued that in order to understand the impairments of a particular child, it is necessary to consider disability as a condition for living, in which impairments are neither caused by biology, nor socially constructed, but something which arises in the interaction between biology and social conditions for living. Even though the learning problems of children with severe CP are based in a neurobiological deficit, they must always be seen and analysed through their social moderation and mediation, as Vygotsky pointed out in his theoretical approach.

This developmental dynamic needs to be anchored in relation to concrete perspectives on the
practice. Analysis from the social practice perspective focuses on the organisation of the learning activities within the setting and how the teachers and other professionals organise the remediation. Taking the perspective of the child, the analysis moves to a focus on the motives of the particular child and how the child acts in particular settings affording different types of activity. Analysis from the perspective of the child enables an understanding of how the child’s personal motives impacts on the kind of activities, he or she likes to participate in and how the participation of the child might impact on the learning and cognitive development of that child.

In examples from a special school, the separation of different perspectives within the learning practice raise attention to different types of conflicts. One type of conflict can be found between professionals, who hold different agendas for the children. Through discussions about how to balance the different agendas, the teachers, therapists and pedagogues organise activities where their different demands on the children are aligned.

The child perspective on the learning practice organised by the professional adults raise attention to a second type of conflict; conflicts between professionals and individual children, for example when a child refuse to participate in the activities or participates in ways considered invalid by the adults. Both types of conflicts are located between different participants in the activity and depart in the fact that the participants are individuals with individual motives. The conflict between participants with different motives is not unique to this learning practice; a child’s deliberate non-participation touches on a central theme in all learning; the necessity of corporation for learning to occur at all. It is a general problem both in relation to several of the children at the special school and children in general. However, from the cultural-historical point of view, conflicts can be considered as developmental crises that carry the possibilities for the development of the child when they are understood as located in the social situation of the child rather than as due to deficits within the child. In the broader perspective, it could provide a better grounding for social inclusion if the learning impairments and developmental problems of children with disabilities are considered in relation to their life as a whole rather than as determined by their biological defects alone.
240. Researcher reflexivity leading to action research in a mathematics classroom – Enabling Nelly to multiply again through deconstruction and reconstruction

Sharada Gade

This paper draws upon two studies, at grade six and grade four in Sweden, conducted with a mathematics teacher Lea and her successive batches of students. I discuss herein the nature of researcher reflexivity possible when situated narrative, classroom talk and mediated action were deployed as units of analysis. In particular, I describe the trajectory of deconstruction and reconstruction within the conduct of an action research cycle in relation to a student Nelly and her personal travails with the multiplication that was being demanded of her.

Conducted when her students were at grade six in my first and six-month study conducted with Lea, I was participant observer. Our collaboration began with my appreciating Lea's praxis and was based on observing how Lea and her students interacted with each other in teaching-learning practice. Lea's understanding of my presence and occasional contact with students led her in turn to facilitate my gradual interaction with them. Drawing upon these instances and making field notes, I was able to construct narratives of students about the meaning they were making of the mathematics being demanded of them in her classroom. With situated narrative as unit of analysis I was able to, in a Brunerian perspective, appreciate how Lea's students were negotiating the bridge between personal and propositional forms of mathematics within classroom practice. While throwing light on students' voices and strategies, I have since been able to raise my voice to the larger issue of the divide there exists between policy and practice.

By my second and year-long classroom study with Lea and a new batch of students at grade four, Lea had sought and obtained funding for a project to promote communication of her students within mathematics. Building upon our collaboration thus far we now conducted mediated activity in the Vygotskian sense, providing students various opportunity to communicate both in whole class discussion led by Lea as well as when they were given to work with each other in pairs. Observing students in the conduct of these, led to my adding classroom talk and mediated action as units of analysis in addition to situated narrative. Such a stance allowed greater access to the mathematical reality that was created and being participated in by all of us in teaching-learning practice. In having access to the who in addition to the how, it became possible to attend to issues inclusive of power and gender in my study – all at a grade four classroom. With informed and multiple access to the probable significance of ongoing events it now became possible to deal with researcher reflexivity in empirical terms, placing my study in a position to take up desirable intervention if found...
necessary. Such an opportunity presented itself when Lea brought to my attention her stumbling upon of the faulty use of the equality sign by her students. With an action research cycle designed and conducted to trace and restore equality to students usage of the sign, it is personal travails of a student Nelly that I focus upon. Nested within the larger problem of the faulty use of the equality sign, Nelly had problems with the multiplication being demanded of her.

Nelly's problem can be traced to Lea's routine of having students sit on their desks before recess time and seek answers for multiplication facts like 7 x 9 before leaving. The discomfort of not being able to respond to Lea by some, with someone else always having a ready answer, made this practice testy. Working with manipulatables and various board games Lea's was however aiming for her students to be proficient with their multiplication tables. It was on one occasion when Lea administered a small test with suitable blanks to fill in, that Nelly's problems surfaced. The first question addressed multiplication facts like 15 = 3 x __, 60 = __ x 10 and 2 x 30 = __. It was the next question that brought Nelly to tears. While many of her classmates were able to fill in the blanks in say 25, 50, __, __ or 12, 24, __, __ Nelly found herself struggling and unable. I also noticed Nelly to not want help from Elsa who sat beside her and who had presumably filled in the blanks by figuring out the underlying game. Though Nelly was consoled, it was my search for reasons for Nelly's obvious and honest discomfort that made demands upon my reflexivity.

The deconstruction of Nelly's predicament, led to my examination of how students were given to multiply in their textbooks wherein the multiplication of 25 x 3 say was broken down into a task of adding the products of 5 x 3 and 20 x 3 while also attending to the place value of both digits. The goal of the second question in Lea's test in contrast expected Nelly to either skip count or recognise pattern on the basis of which she would fill the missing numbers in the blanks. At this point I surmised that if Lea had been offered a third number in her question such as 25, 50, 75, __, __ Nelly may have had opportunity to find successive and repeated increase, enabling her to fill in the blanks required. Not having a third number probably denied Nelly a means with which to find pattern, resulting in loss of a sense of control over her thinking – something that her textbook may have been allowing her. I found Lea to agree with me on this, yet also found Nelly attempting this very question again – under the cover of her desk, when Lea returned the test papers she had evaluated. This led me to seek the nature of pressures that Nelly may have been experiencing from outside classroom practice as well, like for example parental expectations relating to her performance at school tests. Being able to ascertain that Nelly's mother was a teacher of mathematics at an upper secondary school gave credence to the possibility of larger societal issues engendering Nelly's performance. Nelly's case counted in the design and conduct of activities in relation to the faulty use of the equality sign. Providing students opportunity to participate with an individual sense of
control in these – akin to her textbook, resulted in Nelly being able to regain her lost sense of control over her computational abilities as well as her confidence. My making interpretations and taking responsible actions towards such reconstruction found ratification as well in my year-end interview with Nelly's class teacher, who confirmed that of all her students Nelly made the biggest leap this school year. Nelly's parents she said, worked regularly with her and expected her to do well giving credence to my consideration of wider societal factors in Nelly's performance at her school test.

It was the incidence of Nelly's travails with multiplication and its resolution within the action research cycle conducted within teaching-learning practice, that shifted my role as researcher within from a practical to a critical-emancipatory one. While I discuss elsewhere the processes of deconstruction and reconstruction that were utilised towards addressing the larger problem of the faulty use of the equality sign, I contend that it was in drawing upon my three units of analysis that I was able to substantiate my reflexivity in empirical terms. It consequently became possible for me to both deploy an action research cycle and develop actionable knowledge within ongoing classroom practice. Besides responding to a crisis that arose in situ there has been satisfaction as well of being able to empower Nelly, her teacher and research.
242. The knowledge that matters in professional practices

Anne Edwards - Harry Daniels

The Study

We draw on evidence from a current study of inter-professional practices in children’s services in three local authorities in England. From CHAT we recognise that practitioners inhabit discrete practices such as social work which are historically-formed, imbued with knowledge freighted with emotion, shaped by the purposes of the institution and oriented towards ‘what matters’ (Carlile 2004) for each profession. However, we also recognise, following Evetts’ (2009) distinction between values-led occupational and rules-driven organisational professionalism, that different institutional forms give rise to different forms of professional practices, values and orientation.

The study is examining the integration of services for children such as social work and educational psychology at time of deep cuts in local authority funding. The negotiations occurring across the boundaries between specialist practices within this funding environment reveal sharply what each service considers central to the work they do with vulnerable children, allowing us to examine the interplay of professional knowledge and motives as each service promotes ‘what matters’ in its practice.

The study involves CHAT-based interviews with senior staff (n=15 in each site) and two two hour meetings in each site, which are structured by the principles of Developmental Work Research (DWR) (Engeström 2007). The interviews and meetings, which are all transcribed, require senior staff to identify the objects of activity that shape the work of the services for which they are responsible, to reveal how those objects are threatened by changing configurations of services and to reflect on which specific contributions to be made by each service in these reconfigurations. The DWR-structured meetings are sites of intersecting practices aiming at shaping service integration, where ‘what matters’ for each service is publicly negotiated. Talk in the meetings reveals (i) the motives that become evident when professional knowledge is brought to bear on problems of professional practices and (ii) the professional knowledge in which these motives are embedded. In examining the interplay between professional knowledge and object motives we are identifying ‘what matters’ in practices within individual services and ‘what matters’ when the practices of services intersect and objects of activity are negotiated across practice boundaries.

Analysis

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Talk data from the DWR sessions are analysed using theoretical resources developed in our previous analyses of (i) professional practices within CHAT analytic traditions; and (ii) knowledge in use drawing on both Bernstein and Knorr Cetina (e.g. Daniels 2010; Edwards 2005; in press).

Our argument is that although mediation is a core concept in CHAT, too little attention is paid to what knowledge is recognised and used to work on objects of activity. We are therefore augmenting CHAT analyses by bringing to bear Bernstein’s (2000) distinction between mutually embedded elements of institutional discourses: the instrumental and the expressive or regulative. The former refers to the transmission of skills and their relation to each other, and the latter refers to the principles of social order, relation and identity. Expressive or regulative discourse communicates an institution’s public moral practice, values beliefs and attitudes, principles of conduct, character and manner and transmits features of the institution’s local history, local tradition and community relations. These embedded discourses both structure and are structured by the institution and give rise to the knowledge used to mediate and take forward professional work. Importantly, institutions differ in the relative salience of each discourse with the result that institutional purposes are revealed in professional talk in and about practices.

A particular strength of Bernstein’s work has been his attention to the affective aspects of cognition and action, a strength which is echoed in Knorr Cetina’s focus on epistemic or knowledge objects as problematic objects of attachment which are tested and manipulated in order to understand them better (Knorr Cetina 1997, Knorr Cetina & Brueggar 2002). Explaining knowledge objects as ‘centring and integrating devices for regimes of expertise that ...create the collective conventions and moral order’ (1997: 9) i.e. they carry forward ‘what matters’ in practices, she discusses how engagement with the knowledge that is brought to bear in work practices is a crucial element in practices that are not limited to employing what she terms ‘ready to hand’ tools on work tasks. Knorr Cetina’s attention to engrossment or engagement with knowledge is augmenting our CHAT analyses of relationships between tools and objects of activity by encouraging an examination of the knowledge that arises in work practices and which is being revealed in cross-boundary inter-professional negotiations.

When combined with the distinction that Bernstein makes between the instrumental and the expressive, these analytic resources are allowing us to examine in detail an interplay between institutional conditions, practices and the knowledge in use, as new conditions and practices are being negotiated. Ultimately these analyses connect with Evetts’ distinction between a knowledge and values-driven occupational professionalism and a rules-driven organisational professionalism.

Talk data from the DWR sessions are therefore analysed to reveal (i) how Bernstein’s embedded discourses permit specific ways of accomplishing what matters in practices; and (ii) following
Knorr Cetina, how engagement with professional knowledge differs in line with the relative salience of the instrumental and the expressive discourses. The analysis does not focus on the processes of argumentation i.e. how these discourses are deployed, but on the knowledge in play as revealed in how the objects of professional work are categorised and how these categories are employed in negotiations across professional boundaries.

We are not suggesting that knowledge is absent in CHAT analyses, but that these analyses can be strengthened by attention to how the knowledge and emotion that mediates professional action arises, is given value and is deployed to take forward professional intentions. Inter-professional discussions where ‘what matters’ is both defended and negotiated into reconfigured practices allow analyses of the extent to which the knowledge used is either instrumental or expressive and how each creates different knowledge-informed interpretations of the object of activity for the professionals involved.

*Theoretical Contribution to CHAT*

We hope that this paper, which brings together strands of work that we have developed separately over the last decade, will make three contributions to the analytic resources offered within the CHAT field.

1. Although the emphasis on emotion in Vygotsky’s original writing has, arguably, been underplayed in current interpretations of the work, his non-dualist account of motive remains important. Lompscher (2000) clarifies how the cultural historical conception of motive reveals a monistic orientation.

   Objects which an individual represents cognitively and which satisfy a certain need therefore become emotionally significant for the individual. As such they become the real motive of a concrete goal-oriented, object-determined activity. In this sense, motives represent a unity of cognition and emotion.

   (Lompscher 2000: 79)

Vygotsky and Leont’ev, created a tradition in which an understanding of the societal formation of motives was central to a thesis of the cultural historical formation of mind. A weak point has been how specific institutions mediate societal motives. Although present in Vygotsky’s later writing, relatively little attention has been paid to the development of a non-dualist account of cognitive and affective features of human functioning and how they relate to how motives and goals arise in situations. We hope that combining CHAT analyses of work in practices with Bernstein’s attention to the structuring power of embedded institutional discourses, particularly the interplay between cognition and affect so central to it, will be an important addition to the CHAT repertoire.

2. By paying attention, following Knorr Cetina, to the knowledge that arises and matters in
professional practices, in research settings where the old rules which have shaped discrete practices are no longer viable, we hope to make visible the problematic nature of knowledge in practices. The intention is that knowledge is not simply regarded as a given but is, potentially at least, recognized as always in the making and engrossing.

3. By bringing together two analytic resources, not often employed within CHAT research, we hope to contribute to the task set up by Vygotsky to better understand the connections between culturally embedded cognition, emotion and intention.

References
Role Play of preschool children who are not accepted by peers is studied in the context of the development of psychological boundaries of “I”.

Whatever psychological schools researchers belong to, they all unanimous that play is necessary for a full-fledged psychological development of children; upbuilding their personality; acquiring their place in the world. Researches made by Russian psychologists L.Vygotsky, D.Elconin, and others showed that development of motivation needful sphere, of mental actions, of voluntary behavior, overcoming deficit of cognitive egocentrism, are done in play.

It is in play of pre-school children the main preconditions of mastering the learning activity are created and consequently the more valuable the child’s play is, the more successful his study at school will be.

Both watching children’s lives and special researches show that, unfortunately, contemporary children play less and social life of adults is step by step being washed out of the subject of children’s play.

However, there arises the question if always even when children are playing, the play can completely fulfill its socializing function for them all. This question arose in connection with watching the play of children in a senior group of kindergarten when some peculiarities of play of unaccepted children were noticed.

The research was held in a Moscow kindergarten. In accordance with the sociometric results some children with a low sociometric status were chosen. All in all 140 children of senior pre-school age participated in the research, 70 of them were with a low sociometric status (unaccepted children). The control group consisted of 70 children with high and an average sociometric status (accepted children). 80 mothers also took part in the research. The data have been amassed for 4,5 years.

The results processing was conducted by means of SPSS package, for checking the significance of the differences Mann-Witni, X2 criteria were used, the correlation, factor and cluster analysis was conducted as well.

Observation over free play of children was the main method of investigation.

The following parameters were recorded: subjects, roles, organization of the play space, type of toys the child selected. Watching the games showed, that the play of children with a low sociometric status has some specific peculiarities, which makes it different from the play of children, accepted by the group.
It turned out that unaccepted children rarely had the subjects, where socially significant activity of adults was played, for example: “At the doctor’s”, “On a train”, “At school”. Family subjects (“Mother and children”, “Family dinner”) took place in both groups, but the unaccepted children played not role normative relationship of adults, but personality, highly emotional aspects of family relations, for example scenes of family conflicts. Moreover, the unaccepted children could not play within the chosen subject for a long time and would break the game. Differences between the groups are significant at p<0,01.

Watching the children play showed, that all the unaccepted children, practically had no professional roles, such as “doctor”, “builder”, “seller” and others. The ignored children usually play minor roles, but even their main parts turn into minor ones. For example, their Cinderella never becomes a princess, during the play everyone offends her, prince does not find her and so on. The unaccepted children are unable to hold on within the frame of the role for a long time, they break the role actions and come out into the real relationship.

We have watched the most conspicuous differences between the groups in organizing the play space. The unaccepted children occupy for the game a space of inadequate size. It is either too large or too small and they would not come out of it.

While playing games with rules, unaccepted children significantly more often break the rules. The results of the first stage of our study gave ground to assume that children who are not accepted by their peers not have formed psychological boundaries of “I”, or these boundaries are distorted. “I” stands for integrated whole personality.

Researches conducted by L.Vygotsky, D.Elconin, D.Vinnicotte, M.Maler and others show that the process of the psychological development of the child is in fact is the process of differentiation of inner and outer life, process of building up the boundaries between “I” and “Other”. The development of the boundaries and the psychological space of “I” comes from the original sensation of insurapability of “I” and Non “I”, followed by the individuation and differentiation of “I”.

To check the supposition that children unaccepted by their peers do not have formed boundaries of “I”, the second stage of research was conducted. A set of methods aimed at studying the peculiarities of the psychological boundaries of “I”, personal characteristics and peer relation of unaccepted children was developed. Also the real interaction of child and mother was additionally studied on 80 pairs of “mother and child” (tests on joint actions and joint drawing).

The results of the research exposed significant differences between the unaccepted and the accepted children in forming the boundaries. It turned out that most of unaccepted children do not have formed, stable boundaries and integrity of their boundaries is violated. Some differences between the groups were also discovered in the strategy of building a contact with the world. It was either
the strategy of avoiding contacts or an aggressively-protective form of contacts. The significance of the borderline is underlined by its fencing off by means of walls, ditches, hiding in a fenced space. Also some human personalities of unaccepted children were exposed, such as: heightened anxiety, aggressiveness, absence of skills of constructive behaviour in conflict situations, an understated self-esteem, unacceptance of oneself. It also turned out that most of them have a negative image of a child of their age. These children feel emotional discomfort in the family, the boundaries between the members of the family are broken, interaction with mother is violated. (In all the enlisted peculiarities the unaccepted children significantly differ from the group of the norm. p<0,01)

Factor analysis of this data revealed three significant factors, describing 65% of all the excerpt: F1 is “non normative play”, F2 is the violation of the boundaries of ego, F3 is an aggressive violation of restrictions. (We conditionally named non normative the play where no mastering of social relationship of the adult world takes place). The differences between the groups in factors F1 and F2 are significant. (at p < 0,01).

The violation of the psychological boundaries are strongly manifested in the games of unacceptable children. It is displayed both in the subjects, in the roles, in the organization of the play space and in the content of the game. The unaccepted children often break the real boundaries of the children of their age, they fail to hold the borderline of the role, mixing up game and reality. They are unable to play for a long time within the frame of the subject, destroy the game, passing from the play onto the real relations. Normative, social relationships of the adult world which constitute the content of the role play are not mastered by them in the game, the play does not fulfill its socializing function.

As it was shown by L.Vygotsky and D.Elconin, the central part of the game is the pass on from the available space into a different one, the pass from the real to the imaginary and holding this double plane of existence. The play is this simultaneous existence in the two spaces, on their borderline. This does not happen to our children, thought. they either get out of the game or turn the game relations into real. In their play there is no transition of the borderline from the real into a different space, they are always at one side of the borderline, the transition is not presented to them.

The results of the conducted research permit to speak about the existence of a connection between non-formation of the psychological boundaries of “I”, peculiarities of the children’s play and unacceptance of the child at the pre-school age. At the preschool age the psychological boundaries of “I” are mainly formed in play activity, in the process of role interaction, in inter-transition of the child’s role and real position, in the players’ real relationships. Thus, additional, specially organized play activity is necessary for children with intercourse problems in its process the gap between the highly emotional and developing functions of the game will be overcome. Only in this case mastering relationships, norms and rules of the adults’ world will become the content of the game for them.
Purpose

Parent-child interaction has often served as a basic model for studying issues of learning and development in cultural-historical theory and in the construction of theoretical concepts and models. However, a number of researchers have critiqued the standard model of such interaction. Goodnow (1990), for example, argues that much work constructs an unrealistic world in which children develop: [T]he picture usually presented is that ... the world is benign and relatively neutral.... one of willing teachers ... and eager learners.... Where are the children who do not wish to learn or perform in the first place, or who regard as useless what the teaching adult is presenting? (p. 279)

Goodnow identifies several studies that present examples differing from the typical picture but notes their rarity. Litowitz, echoing Goodnow’s critique of the “voluntarism of the standard scenario,” (Litowitz, 1993), offers more examples. In addition, both critics mention that research has frequently focused on the degree to which the child’s actions are adult-like. Litowitz dubs the zone of proximal development an “adultocentric view of the child’s behavior” (1993, p. 190); Goodnow observes that models of socialization, generally, tend to be “too exclusively concerned with what is being done by the dispensers of knowledge” (1990, p. 280). Both suggest the need to incorporate the child’s viewpoint and the notion of resistance into theory.

Although these critiques have been available for sometime, the issues they raise remain current. Analyzing several examples of resistance during parent-child interaction, this discussion suggests a way that the theoretical incorporation of conflict and resistance makes cultural-historical theory more useful for analysis and application, particularly in contexts of schooling. Looking at the child’s impact on the adult and on the activity is particularly critical for constructing a learning theory of use in schools. The data to be presented show that even in parent-child interaction when learning activity appears successful, there may be several kinds of conflict and adults must negotiate with children in order for success to be achieved. To ignore conflict in theory tends to stigmatize settings in which conflict is not out-of-awareness or easy to ignore, and to leave the impression that conflict is only associated with failure, as in many ethnographic studies of schools in poor, urban neighborhoods. The data to be presented suggest the need to normalize conflict, contestation and resistance and, in so doing, to revise basic understandings of learning and development.
development.

**Perspectives & Theoretical framework**

This discussion builds on Vygotsky’s concepts of the general law of cultural development and the zone of proximal development. To this framework, it adds conceptions of identification and resistance, negotiation, recruitment and activity-level analysis. Works by Goodnow (1990) and Litowitz (1990, 1993) provide additional key concepts. Litowitz “explores a question that Vygotsky recognized but did not answer”:

What motivates the child and the adult to perform as Vygotsky, and others following him, have proposed? I suggest that a narrow focus on what the child can do with or without an adult excludes the equally important question of how the child comes to be a person like the adult; to see speech only as a means to accomplish ends in activities obscures the role of speech in establishing a sense of self. Furthermore...mastering activities and establishing a sense of oneself are not two distinct lines of development but are, rather, entwined in complex ways... one cannot “study” one without the other. (1993, p. 184)

Litowitz identifies two concepts needed in discussions of the zone of proximal development and a learning theory based on the process of internalization or appropriation: “identification” and “resistance.” In her view, “what motivates the child to master tasks is not the mastery itself but the desire to be the adult or to be the one the adult wants him [sic] to be. Such desires constitute identification with another person” (1993, p. 187). As Litowitz and Goodnow suggest, without this notion of identification failure to learn is often inexplicable: “[A]reas of knowledge and skill are differentially linked to one’s social identity, and ... the linkings can help account for both acceptance and resistance to learning, especially the latter” (Goodnow, 1990, p. 282).

Both Goodnow and Litowitz stress the idea that learner’s motivation has at least as much to do with who one wishes to be as with what one wishes to know or be able to do. Importantly, Goodnow includes the idea of “negotiations toward a transfer of skill .... The negotiations one is willing to work on” (Ibid). Although “transfer of skill,” suggesting passivity and simple imitation, is problematic, she counters that any “transfer” involves significant negotiation between parties in the interaction.

Identification and resistance--more psychodynamic than sociological in Litowitz’ formulation--are linked in complex ways in sociocultural theory. Vygotsky explained that the transfer of cultural knowledge takes place through the process of internalization. In Litowitz’ theorizing, “the language of another becomes our own when we speak to ourselves as others first spoke to us. [So], as the child internalizes the language of the other that structures a task, she becomes the one who speaks in
that manner…. Their desires become ours; and we become their desires” (1993, pp. 188-89).

Litowitz is speaking the language of Lacan; but Pierre Bourdieu’s (1977) concept of habitus could also serve this discussion. The habitus is “a system of lasting, transposable dispositions which, integrating past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions and makes possible the achievement of infinitely diversified tasks” (pp. 82-83). But, recalling, Bakhtin, the situation is somewhat more complex than it may appear because speech is heteroglossic and polyphonic, so “the ideological becoming of a human being ... is the process of selectively assimilating the words of others” (1981, p. 341). The speech of the parent, during bedtime reading, in expressing a preference for a story or for one interpretation or a fondness for a character, for example, may conflict with the expressed preferences of the child so that the child resists participation in the reading or the interpretation of the sentiment--a conflict in identification, for the child at least. Litowitz concludes, “[o]ut of such struggles in identification is resistance born” (1993, p. 190).

Method of Research and Data Source

The study employed qualitative methodology, specifically ethnographic field study, including the collection of field notes, interviews, audio-recordings and video-recordings. The data for the analysis to be presented were gathered ethnographically, in the “routinely” occurring activity of nightly bedtime story reading in its “native” settings, that is, in the homes of the families and preschoolers who participated in the study. There were six participant families and focal preschoolers, with a boy and girl of each of three ages, 2 years, 3-1/2 years and 5 years of age at the beginning of the study; for each age, there was one Euro-American family and one Hispanic-American family. Home visits were made and data were gathered for a year. Data consisted of field notes, parent interviews, and audio-recordings and video-recordings of parent-child book reading activity. Analyses to be presented are based on field notes, interviews, and discourse analysis from the audio-recordings.

Participation as a researcher in contexts of routinely occurring cultural activity and examination of the activity over time are significant in developing the kind of analysis that is claimed for this work. Only with long term knowledge of participants does it become possible to interpret much of their interactional activity, to notice nuances of interaction which apparently have gone unrecognized in similar studies, to tease out the presuppositions of co-participants’ already-established arrangements which have been worked out over time--much or all of which activity has gone unobserved by non-participants or participant-observers in other studies.
Findings

Findings to be presented are examples of discourse analyses of parent-child book reading activity and a typology of conflicts. There are four categories in the typology; for each of the four types one extended example of discourse analysis, supported with interview responses and field notes, will be presented. The typology is as follows:

1) Resolved conflicts – a) negotiated participation; b) re-negotiated participation;
2) Unresolved conflicts – a) overt contested participation; b) covert contested participation.

The findings suggest the need for a revised view of adult-child interaction in learning and development, and of the ZPD, and support an understanding of conflict and resistance as normal in adult-child interaction, not only in situations where children and adults are socially distanced from each other, but in all situations. This last idea raises the question of how conflict is managed productively in some settings but not others and points to recruitment and identification as keys to successful resolution of contested participations.
The aim of this investigation was to explore the response of postgraduate accountancy students to seminar classroom teaching, guided by ‘cognitive apprenticeship’ (CA) (Collins et al. 1991). The teaching aim was to improve students’ study experiences on a postgraduate module, Accounting for Managers (AFM), given that increasing seminar class sizes (up to twenty-four students in a class) can often result in a ‘lecture’ approach from the teacher and silent students (Ramsden 2003:150). As a seminar teacher, I was responsible for delivering the teaching material (already prepared by the module leader (ML)) in the classroom, but had freedom over the way in which I interacted with students in the classroom.

This research took a situated view of learning (Lave and Wenger 1991) in investigating how students became successful, or otherwise. A situated view sees engagement by an individual in a social practice as a transformation and a change in identity is the outcome of engagement (Lave and Wenger 1991: 122) Schoenfeld’s ‘community of inquiry’, in an undergraduate mathematics classroom, used a CA approach, with the aim of creating a community of mathematicians (Schoenfeld 1996). I followed the CA approach suggested by Schoenfeld and I used identity as a key sociocultural indicator of student development, using Wenger’s theoretical concept of a ‘learning community’ which sees identity as a way of becoming a participant, engaged in the practices of the community. Identity is then evidence of the ‘learning trajectory’, or learning journey, which accountancy postgraduate students make.

This resulted in the research question:
How does seminar class teaching, guided by CA (Collins et al. 1991), affect student identity?

As a teacher-researcher I taught a weekly AFM seminar (a ‘research seminar’) for each of the twelve weeks of a semester over a three year period (six semesters in total). While pass marks were an institutional indicator of student success and provided some evidence in the exploration of student learning trajectories, the focus in this paper is on identity as an outcome, that is, what students saw themselves becoming, as they engaged in their AFM studies.

Qualitative data explored both the AFM practice students engaged with and their response to the practice. Evidence came from the narratives of students themselves in semi-structured interviews held during the semester, before and after the AFM examination, (‘narrative data’). I used the first-person narrative approach of Sfard and Prusak, to identify any movement from actual to designate
identity (Sfard and Prusak 2005: 18). Evidence also came from observed student behaviour in the classroom (‘practice data’). I used video and audio recordings to observe students, as well as student class notes and examination scripts, which provided ‘practice’ manifestations of identity. While fifty students (over three years) attended an initial interview, evidence from eighteen of these was used in the final analysis (of the practice), with seven of the eighteen students forming detailed case studies, two of which are presented in this paper.

Wenger’s modes of belonging: engagement in practice, imagination and alignment (Wenger 1998: 174) were used to explain the case study students’ learning trajectories. The analysis used a case study approach in building a ‘chain of evidence’ (Yin 2003: 34) to ensure construct validity. The case study approach followed the recommendation of Cobb (2006: 153) to consider both the ‘immediate learning environment’ and the learning trajectory, as a result of past ‘history of participation in practices’ of students. I also took account of future expectations, in using the three ‘modes of belonging’ (engagement, imagination, alignment) as a means of analysis.

The limitations of this research came, primarily, from the position of the researcher as teacher. A variety of bias reduction measures were used, including, the review of data collection and analysis by a researcher from a separate higher education (HE) institution and use of data from more than one source (triangulation) in both the analysis of the practice and student. For example, student class notes and examination scripts were used to explain the level of examination success and support the ‘narrative’ data.

The power of the teacher, as researcher, required control. Ethical integrity, to ensure students were not harmed, was maintained by compliance with institutional ethical standards, as well as the ML monitoring the ‘research seminars’, with regard to student achievement (pass marks) and student feedback.

**Findings**

Evidence from students showed that the AFM practice was an ‘examination practice’. However, the case study students responded in different ways to this ‘examination practice’ and their learning trajectories were shaped by, not only, their AFM experience but also, their prior experiences and future expectations.

What the case study students became had, to varying degrees, elements of both a ‘professional manager’ identity, where the student related AFM accountancy to ‘becoming a professional’ outside HE, and a ‘study-strategist’ identity, where the student related AFM accountancy to ‘becoming a successful student’. The different levels of success of the case study students (AFM pass marks) were related with elements of different identities (‘successful study-strategist’ and/or ‘professional
managers’), themselves the result of the different student learning trajectories, as students combined the components of identity as learning (engagement, alignment and imagination) in different individualistic ways as they responded to the AFM ‘examination practice’.

To be successful on AFM, students needed to develop an identity with elements of the ‘successful study-strategist’ (engagement in practice) and without this element being strongly developed, students could not be highly successful. However, becoming a successful AFM student, in terms of pass marks, involved combining elements of a ‘successful study-strategist’ identity with elements of a ‘professional manager’ identity (the latter involving the modes of imagination and alignment).

The research seminar teaching, guided by CA, developed to support the AFM ‘examination practice’ (although this was not planned at the start of the research) in response to students’ learning needs in the classroom. Even so, seminar class teaching, guided by CA, had a weak effect on student identity, in terms of becoming a successful participant in the AFM ‘examination practice’.

As the seminar teaching guided by CA, came to focus on the AFM ‘examination practice’, it could only affect the ‘study-strategist’ identity and becoming a ‘successful study-strategist’ did not involve or necessitate developing a ‘professional manager’ identity.

Conclusions

Much HE research views identity development as the result of acculturation, rather than enculturation (a sociocultural perspective). Analysis using a sociocultural framework showed how student identity development was the result of coming to value what the HE practice valued, that is, becoming encultured in an ‘examination practice’, and goes some way to explaining the ‘alternative’ ways of studying in HE noted by others (e.g., Norton et al. 2001; Miller and Parlett 1977).

This research highlights the critical need for postgraduate accountancy (business study) students to see the relevance, the ‘use value’ (Lave and Wenger 1991: 112), of their studies in order to become a graduate who can engage in a ‘professional’ life. As the ‘examination practice’ rewarded AFM students for being a ‘study-strategist’, their ability (and confidence in their ability) to enter into a professional life after graduation was, perhaps, diminished.

The pedagogic implications arising are for HE practitioners to consider the roles of imagination and alignment, as ‘ways of learning’, in student identity development, in order to move students away from staying with the ‘exchange value’ (Lave and Wenger 1991: 112 ) of their studies.

Further research

Further research into accountancy (business studies) student learning trajectories would give additional evidence of HE student diversity and how HE students ‘value’ business studies, for
example, a comparative study of accountancy students with other business school disciplines at two or more different HE institutions (business schools). The latter would overcome some of the limitations of researching as an ‘insider’ (teacher-researcher).

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If we try to characterize the common vector (direction) of contemporary investigations into consciousness, we can find (with, of course, minor reservations) the retention of some kind of “privileged vocabulary,” particularly of scientific vocabulary which still defines the criteria for a satisfactory solution of the “consciousness – body” problem. We mean that in the very structure of the solution to this problem, imperatives of science or of methods of natural science can be found with ease. It can most clearly be seen by demonstrating the productive connection between body and consciousness, i.e. in the understanding of how the physical produces the non-physical.

From the language of physics we know that to describe some physical state or object means to provide as detailed a description as possible of all its relationships with other states and objects. But if we admit that mental states cannot be equated with physical states and have completely their own ontological status then it would be quite reasonable to expect that the type of relationship between mind and body will differ from that used in science. For in the language of physics we can describe the relationship between two tables, but not between a table and its mental image; the natural science approach can describe only a relationship between objects, but the consciousness of a thing is not in and of itself a thing. This last statement nowadays is disputed much more rarely than it was even quite recently. It is generally accepted that if physical reality has some extensiveness, mental reality has no such characteristic; if physical events possess a number of material characteristics (e.g. mass, weight, solidity, strength, etc.), mental events do not have them. The idea of an elephant does not evoke its appearance in our brain; tasting wine does not allow one to recover the traces of wine in our brain; and our recollections of Jack’s singing yesterday are neither loud, or quiet, or false, although the song itself could correspond to any one of these characteristics. Nowadays philosophy has come to realize that we can get very deep in our studies and registration of changes in the brain which accompany mental states; yet that still does not mean that we have gained access to the mental states themselves, which is commonly called “first-person ontology (Nagel, 1974).”

The problem is, however, that the connections between consciousness and objects, in the vast majority of contemporary investigations, are explained on a model of the connections between the objects themselves. In the language in which the relationships between objects are described, all else is also described. And should we succeed in describing in this language the relations between the physical and the mental, we would have then achieved some explanation. This is the very scheme of coming to a resolution to this problem. Hence it is clear that if the basic relationship between physical objects is a relationship of causality, then this is the very relationship inherent in
our attempts to deal with the “consciousness – body” problem And this means we would be attempting to explain how something that has no physical characteristics can appear as a reason for that which indeed possesses such characteristics, and vice versa.

The very broaching of the problem itself is based on the model of experimental science: it would indicate that something exists beyond the limits of consciousness and would then try to ascertain the causal or functional connection between the conditioning and the conditioned. But if we admit that consciousness is not a thing, then why can we count on finding a connection between it and the body like that which would be found between two bodies? Searches for the physical reasons of consciousness are, however, equivalent to attempts to present the connections between the physical and the mental as the connection between one object and another. And in order to describe in what way consciousness is connected to the body within the natural science approach, consciousness and body must appertain to the same field of investigation, that is to say, have one and the same nature. But, as mentioned above, consciousness is not a thing that resembles our body.

It is hard, however, to deny that the difference between body and consciousness is not a material one. In other words, the connection between consciousness and objects can only be described as conceptual, but not as physical, chemical or biological. The problem is, however, that conceptual difference remains a part of consciousness. Conceptual connections presuppose the existence of a consciousness which sets them, these connections, in place. Therefore it may be more reasonable to enter a debate on consciousness in the language of consciousness itself, without resorting to the premises of physical experience. One cannot ignore the fact that all attempts to explain consciousness through “non-consciousness” (for example, “physical”) are identified as “non-consciousness” by consciousness itself. For example, when we say that the brain induces consciousness, we cannot get away from the fact that this “brain which induces my consciousness” exists in my consciousness: the experience of consciousness turns out to be inevitably wider than any objects or phenomena which, when summoned at various instances, produce consciousness. For example, when we say, “I experience a feeling of pleasure,” the “pleasure” cannot be separated, even logically, from the “consciousness of pleasure.” Therefore it might be more correct to say that, “my consciousness induces my brain which induces my consciousness”.

We must mention one more problem in this regard. One may object that the status of the “connection” does not need to be a physical one, and that it can also be a logical one. Here we encounter, however, some more difficulties; in this case, the subject–predicate model or subject–object dualism is applied, which leads to a series of complications in logic. It can be demonstrated as follows: if we attempt to make consciousness an object, then something must also exist that is conscious of this consciousness, which becomes an object in the process. If we accept the pair
“consciousness – object of consciousness,” then there must exist a third term that would, in turn, make consciousness itself the object of consciousness. Here we have two options: either we stop at one of the terms of the series, with the whole series plummeting into the realm of the unconscious; or we agree to an endless regression which leads to nothing. The consequence of this is the inapplicability to consciousness of the subject–object mechanism and that this consciousness which is conscious of objects coincides with the consciousness which is being objectified (Sartre, 1943).

If we were to summarize everything said above, we may say that a series of fundamental premises of science stops working as one would like it to work as soon as it is applied to consciousness. If we attempt to approach consciousness as we approach the world of physical objects, it is difficult not to notice some obvious difficulties. Namely, it is different from the situation when there is a human researcher and an object of his investigation; consequently, there is some experience which itself is investigated as opposed to that consciousness which is identical to man’s experience. It cannot be separated from us; we cannot step aside from it or distance ourselves from it, for consciousness is non-spatial. Consciousness is not an object that can be enumerated or related to some other object.

If we try to apply any “type” or “sort” relationship or subject-object schemes, then we immediately come up against paradoxes in logic. It is connected with the fact that we try to gain access to consciousness through the very framework of logical categories which is the fundamental attribute of consciousness itself. What can be meta–description in this case? (Wittgenstein, 1958). Moreover, consciousness itself appears as the only condition for the possibility of operating these categories. For example, consciousness can not be defined through type or sort, not because consciousness is the most general idea, but because it is not an idea at all, but the source of all the ideas, schemes, and images, and the like.

Therefore, in the question, “how should we understand consciousness”, consciousness confirms the impossibility of its elimination, for understanding is but another name for consciousness.
In this paper the results are presented of two studies of the role of the teacher in children’s symbolic play. The teachers in child care centres and preschools may influence the quality of children's symbolic play to a considerable extent (Johnson, Christie & Yawkey, 1999). However, it may be hypothesized that this will only be the case, when teachers deliberately work from a pedagogical approach in which play is at the core of the programme and when they conceive learning and development as socially mediated. This means firstly, that teachers consider play as a resource of development and secondly, that they foster discursive learning by a proactive role in their play interactions with children and co-construct these interactions by empowering children's agency in a collaborative endeavour.

The first study is a large scale study in which 96 two and three year old children are observed in their symbolic play in 23 child care centres and preschools. In these centres pedagogical approaches diverge, but they have in common that they do not work from a play curriculum approach. The main focus of the education of the teachers has been at fulfilling a caring role. Recently a pedagogical framework is published in The Netherlands, in which the guidance of children's learning and development receives a prominent place, but the majority of the teachers still have had a traditional schooling in which the caring role of teachers dominates. The other study is a case study of two preschools in which three teachers are videotaped in their interactions with the children of their groups. In these preschools a play curriculum is the heart of the teachers’ pedagogical approach. These preschools work with the 'Developmental Education' methodology, which is inspired by the Vygotskian theory (Van Oers, 2009). The teachers are enrolled in an in-service training, which emphasizes the importance of play and the teachers' role in the learning and development of the children.

The main question of the research is in what way the teachers of the two types of early childhood education centres are involved in play interactions with the children. Firstly, it is studied which roles teachers have in their play-interactions with the children (Johnson et al., 1999). Secondly, both teachers’ and children’s behaviour during symbolic play is analysed for two dimensions of play development: narrative coherence and cooperative play. Relating to narrative development, the language of teachers and children is studied to the extent in which they build a sequence of logical connected actions, which together involve a narrative plot. Teachers' and children's' language utterances are further analysed to the extent in which they are directed to and build upon the contribution of the play partner.
In the first study 96 children were observed for two times 30 minutes in their free play, in which teachers may or may not intervene. We used portable wireless audio equipment and a video camera, and the children wore a lapel microphone connected to the pocket transmitter. In the second study we observed three teachers in the same way, and this time the teachers wore the lapel microphone. Video-observations of teacher-child interactions were analysed for the occurrence of symbolic play, and the symbolic play fragments were transcribed and coded by using CHILDES, a computerized system for language analysis (MacWhinney, 2000) and analysed in a quantitative and qualitative way using the CLAN-programs of CHILDES. It has to be emphasized that the designs of the studies varied: the first study is done from the point of view of the children, the second from the teachers. The first study of the traditional child care centres in which 96 children are observed yielded 64 interactions about symbolic play of 35 children with 31 of the 85 teachers and 751 language utterances of the teachers; in the second study the data consist of 8 fragments of interactions of the three teachers with 28 children and 1162 language utterances of the teachers. Since we did not use a (quasi) experimental research design, we may only draw tentative conclusions from the comparison of the play interactions in both types of child centres. However, our quantitative and qualitative results do point at important differences between the interactions of teachers and children.

Introduction

In recent years, there has been a growing number of scholars with a shared interest in scrutinizing the question regarding what digital storytelling can offer to students in educational settings (see for example Benmayor, 2008; Hull & Nelson, 2005; Kulla-Abbott, 2006; Nixon, 2009). Even though many of these studies document how such a practice might have great benefits for students’ learning, the majority do not provide detailed analyses of what students actually do in situ when making digital stories. Further, the question of what happens to the practice of digital storytelling, a practice that is marked by focusing on a very personal dimension of construction of knowledge, when it is employed in the institutional setting of school, has not been adequately studied. Thus, the purpose of this paper is to make a contribution to understanding how digital storytelling is made meaningful in situ by learners in educational settings.

Theoretical framework

In socio-cultural theories of learning, social interaction is considered as being crucial for understanding how people learn (Cole, 1996; Lave & Wenger, 1991; Rogoff, 2003). This study of a community of learners in a lower secondary school is framed within the socio-cultural field of research, and is very much inspired by dialogical approaches to meaning-making (Bakhtin, 1981, 1986; Linell, 2009). The concept of voice and multivoicedness is crucial in analyzing meaning-making processes. To grasp how people participate in meaning-making processes, it is vital to see how the situations in which people participate are characterized by multivoicedness. Meaning-making occurs when different voices, different (world)views or perspectives, get in touch with one another (Wertsch, 1991). The concept of voice and multivoicedness might help us in understanding meaning-making in school, because it captures how different perspectives belonging to both more personal interests and institutional ones are at play in different learning situations. By drawing on this dialogical approach, I introduce the concepts of personal voice and institutional voice, which I believe will enable me to grasp what is at stake in learning situations at school facilitated by digital storytelling.

Methods

The research project is a qualitative case study inspired by an ethnographic methodology (Bryman,
and takes its point of departure in studying activities in their natural settings. Videotaping of students’ work on digital storytelling, group interviews, field notes, and digital stories constitute the data material. The data material is subjected to interaction and discourse analysis (Gee & Green, 1998; Jordan & Henderson, 1995), approaches that have their point of departure in the assumption that realities and identities, to a great extent, are socially constructed in interactions. I aim to explore what the students actually do with the technology in their learning situations in the classroom, and how they talk about what they do; that is, to explore what Gee (1999) calls discourse with a “little d”.

Context

The research data are collected in a lower secondary classroom in a medium-sized city in Norway, where 9th grade students are involved in a project on making digital stories within the thematic frame of World War II. The duration of the project was one week (18 hours), during which students worked in groups, and at the end of the week, the groups presented their digital stories in the school’s auditorium. Data collection was carried out during the whole project, covering activities from the beginning (the development of themes for the stories) to the end (where students presented the stories to each other). To create a specific focus in the research project, two groups in particular were followed during the production process. The first group consists of two boys, and the second consists of three girls. Videofilming the entire production process of these two groups —how they interacted and discussed what choices to make, what strategies to choose, what effects to utilize and so forth— when working on the digital storytelling projects made it possible to trace the students’ learning trajectories when making digital stories. In addition to following the students at school, I visited the focal students at home. Even if it is snapshots, these home visits have given me ethnographic pictures of these students’ life worlds outside the walls of their school.

Findings

Three findings will be highlighted in the paper. The first finding is of methodological significance. This finding suggests that in order to understand how digital storytelling has something to offer in regard to students’ learning in school, one has to study how students make digital storytelling meaningful for themselves as learners when actually making them. To grasp the complexity of learning situations facilitated by working on digital storytelling, one has to study this process in situ. Second, the students use much of their own personal experiences and interests when working on digital storytelling. The students draw on many personal elements in the process of making digital stories connected to curricular matters, like including semiotic content that have personal value for them. Third, the students and their teacher recruit different personal and institutional voices when discussing the different choices that the students makes during the process of creating
digital stories, which stand in a contrasting relationship to each other. Thus, the personal aspect of digital storytelling in school emerges in discussions between students and teachers when working on it. One way of grasping the personal in working on digital storytelling in school is, then, to consider it as being about how the students are recruiting personal voices to justify and explicate for the teacher what choices they have made, and why they have made them.

This study has great implications for educational research not just for studying digital storytelling in school, but for studying any educational practice in which digital technology is used for learning purposes. Many researchers are studying only the products related to working on multimodal production in educational settings, and are not paying particular attention to the process of making them, which is also highly important for understanding the use of digital storytelling for learning purposes. Further, the dialogical perspective and the concept of multivoicedness appear fruitful in grasping the complexity of learning situations in school. This study is also important because it documents how potential learning is made possible in the field of tension between interests of institutional and the more personal kind.

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Missouri, Saint Louis, United States.


263. How a word became a sentence and a sentence became a reflection: two parallel learning processes

Nitza Shachar

This case study describes a learning process which was conducted throughout a full school year by an aspiring kindergarten teacher in her final year of training, working in the field of special education. This teacher elaborated a program which contained successions of activities for a 6 year-old kindergarten student with autism who did not speak, but had good motivation to learn and the ability to communicate in a non-verbal way, including through eye contact. Children with autism have difficulty in the development of mind theory, which is expressed in the problematic construction of language and understanding their own thinking processes and those of others. This produces a chain reaction of difficulty in understanding instructions and relating simultaneously to different stimuli and sources of information. Their inability to answer may be due to an inability to understand the question. Working with such students demands the teacher's awareness that the student may not comprehend properly the task and the teacher's intentions.

The kindergarten teacher taught the student three successive themes: washing hands, brushing teeth and using utensils (knife, fork and spoon). The initial goals of the kindergarten teacher were practical; to teach the student how to wash his hands, to brush his teeth and to prepare a sandwich. During the training process of the teacher, she realized that she could upgrade the level of her expectations from the student and expand her primary objectives by changing her teaching strategies and enriching her representational repertoire (Wilson, Shulman and Richert, 1987). This led to a major shift in the level of performance and achievement of both the teacher and her student.

To the primary practical objectives the teacher added cognitive goals (to understand and to reason the acts) and communication goals (to talk and to describe the deeds and to name them by using words from the cognitive repertoire, such as categorizing and comparing). The representative repertoire was presented in graduated sequence starting with concrete artifacts, continuing with visual representations like books and photographs, and culminating with symbolic representations like different kinds of tables, schemes and symbols (for example arrows, X and V). These representations served as a bridge between the kindergarten teacher and the student and were tailored especially for him. They can also be considered as multiple texts from different levels of thinking. The course was characterized by transitions from one theme, one practice and one level of thinking and abstraction to another. Thinking actions like comparison, classification and analogy were used and practiced, and semantic meanings were constructed. This paper describes the shifts in
practices and the mediation which were given to the kindergarten teacher by her college teacher and which were translated into mediation and practical activity for the student. These pedagogical and didactic initiatives caused shifts in the level of language and understanding of the student, who started with difficulties in pronouncing words and became able to speak in complete sentences, and to describe what he was doing. The teacher used the pedagogical principle called by Feuerstein "squeezing the reality", which means exploiting the maximum potential which is inherent in the mediating experience. For example, in addition to the physical categorization of concrete objects into groups, the teacher showed how to organize the same data in the form of labeled photographs in a written table.

This paper confirms that raising the zone of proximal development of the teacher produces a direct effect on the zone of proximal development of the student. It shows how "squeezing the reality" (in learning situations) and the process of challenging can produce achievements in language, thinking and human interaction, which are very important when dealing with low-achieving children and especially with students with autism.
Competing discourses surrounding youth and school practices with digital technologies produce contradictions ripe for instigating educational change. This paper discusses the application of cultural historical activity theory (CHAT) in guiding the formation of a collaborative model for appropriating youth practices and digital technologies for expansive literacy development. The research aimed to explore how new forms of social and tool-based mediation derived from the context of emerging technologies can hybridize student and academic literacy practices across multiple spaces and discursive domains. Participatory ethnographic work was undertaken with several high school English classes serving predominately Latino students in the Arizona borderlands. This paper discusses the evolution of the model with a focus on a writing course co-taught by the researcher. The study incorporates CHAT as a fundamentally socio-spatial, process-oriented and relational analytical tool. CHAT is well suited to document the mobility and mutability of digital technologies, where tools, rules, objects and subjects morph into other mutually co-constituting elements of activity. The multi-directionality of overlapping activity systems provides a way to avoid the dichotomies of physical and virtual, in-school and out-of-school, formal and informal, and to recognize the possibilities for structuring a social heteroglossia (Bahktin, 1981) within school learning activity.

Theories of literacy as a social practice, drawn from New Literacy Studies (Gee, 1990; Street, 2005), funds of knowledge research (Gonzalez, Moll & Amanti, 2005), Freirian pedagogies (1999) and Lee’s (2007) work on cultural data sets were enlisted to guide movement within the flexible CHAT framework. These frameworks stress the importance of reciprocal relationships and connections between identity construction and literacy as fundamental to practices that engage diversity as a resource for learning and work against deficit discourses surrounding Latino students. Additionally, an emphasis on critical semiosis (Lemke, 2003) and collaborative multimodal meaning-making challenges normative participation structures in classrooms.

*Initial Strategies*

The aim was to open up avenues for new networks to enter into classroom spaces, and for teachers and students to work together to structure new forms of participation reflecting the strengths and interests of each party. Collaborations with four classrooms took shape over the course of a year.
Each classroom had very different socio-spatial structures on a continuum from maximum to minimum overt teacher control and relationships of trust and caring. A commonality across classrooms was teachers’ lack of technology use, and in the upper grades (ages 16-18) a desire for students to confidently embody arguments within their compositions.

The research sought to reorganize normative relationships that serve to structure literacy practices in different spaces, thereby repositioning students, teachers and their discourse and expanding literacy development horizontally and vertically. The process began with several strategies for distributing agency that spread across nodes of activity: 1) teacher, student and researcher after school study groups for cooperatively developing curricular interventions 2) the use of ning social networks with students as administrators 3) the introduction of tool-spaces for collaborative writing (e.g. google docs, wikis) 4) promoting production of multimodal products and 5) allowance of, rather than “outlawing” student digital mobile tools in technology poor classrooms.

Study groups as envisioned quickly faltered. Collaborations began to evolve into distributed partnerships where the researcher served as the mediator between teacher and student practices across contexts, an arrangement with varying utility at reorienting socio-spatial relationships. The most successful collaboration began with an after school study group based on reciprocity, rather than an immediate attempt to hybridize practices for the classroom. A friend group of students in one classroom wanted a space to author a story they had been informally working on orally and through drawings for many years. Their teacher provided a physical space and computers, and myself as researcher-educator a choice of digital spaces for interaction so students could develop their story as a multimodal work. The “storyweevil” students’ co-development of their wiki demonstrated a premeditated heteroglossia that eventually was appropriated with students’ help for developing classroom pedagogies for collaborative work and genre-hybridization.

The development of Ning social networks sites (“nings”) in several classrooms illustrate the potential and difficulties in developing hybrid practices for expanding literacy with classroom-initiated spaces that mirror popular networks like Facebook. Students participation in nings revealed a comfort in engaging in social and multimodal practices such as “ friending”, posting images of friends, family and personal artwork and commenting on profiles. These spaces allowed participants to create cultural datasets sharing aspects of their identities and networks, get to know each other faster and in ways that transcended classroom space, and dialogue about personal issues. Students as site administrators showed teachers skeptical or fearful of their own and students’ technology skills what students could do when in control of a space and participating according to their interests.

The nings formed a space to interact different from spatial-temporal and discursive norms of the
majority of classes in the study; rows of seats, IRE participation structures and fifty-five minute classes. However, nings are pre-structured in a way that limited collaborative work beyond the genre of commenting, and large numbers of people could co-exist without interacting. Unlike sites like Facebook, ning did not allow for mobile integration, the primary way for many students to access their own and online networks.

Problems ensued when teachers tried to utilize the spaces for academic purposes that seemed artificial to students. Participation waned due to lack of integrated purposes and structures, migration of class-work off site, and overt teacher control. In some classrooms contribution on a personal level continued. Several first-generation Latino students discussed their appreciation of a space for trying out new ways of representing themselves in a safe environment. In these students’ classroom continued participation correlated with home computer access and lesser mainstream social inclusion due to positionality as immigrant, artist or “nerd”.

Overall, little hybridization occurred, but the nings expanded the location of the classroom into the social worlds of the students, providing an opportunity to examine networks and literacy practices that could inform subsequent activity, and for dialogue to begin to develop between participants that crossed multiple social spaces of activity. Contradictions inherent to expanding school practices surfaced more explicitly within initial activity, serving to inform the most productive phase of the research. These issues surfaced as problems related to audience, argument, assessment, relevancy, and the division of labor.

Exploring Identity, Enacting Community

The storyweevil wiki drew the participants into a zoped of intersecting activity systems; the complex collaboration of the weevils’ developing story and the evolving model to appropriate their practices for classroom pedagogy. Within storyweevil, students developed rules for assessing each other’s work, arguing their views and co-creating images, texts and ideas by drawing upon their lived experiences and integrating symbols, languages and stories from different cultures and genres. Using storyweevil as a guide the teacher and I developed a series of “essays” that fit the needs of the writing course curriculum. We structured writing engagements with digital tools for students to explore self and community, drawing from the storyweevil groups’ modalities for organizing participation.

Identity emerged as a key mediating artifact to mobilize and hybridize practices across activity systems. Theories of identity and tools for reflection and production that crossed genres and disciplines were introduced to inform student practices with writing and multimodal meaning-making through readings, visitors via video-chat and dialogue surrounding media contributed to the ning. Mobilizing multi-discursive practices to create representational digital and classroom spaces
(LeFebvre, 1991) through the analytical lens of identity expanded and connected students’ everyday and scientific concepts (Vygotsky, 1994). Traditional socio-spatial practices in classroom writing were challenged by requiring students to move beyond the five-paragraph essay and the use of nings and wikis for building a public space with an audience beyond the teacher as final authority. Individual identity essays asked students to develop their own position based on collective criteria. Collaborative essays interrogating a topic as related to identity, and based on ethnographic work, required shared writing with a wiki but encouraged students to use their own networks and interview others with myspace, texts, and IM. Multimedia response essays invited students to tie together visual artifacts, writing and presentational spaces to analyze their own and others arguments. Products included a documentary on a career program cheating students, videos on creativity and parodies of “blond moments,” visual analytical work on a Spanish language social network site, and paper-based artwork.

The authority to make meaning, for who and for what purpose, was negotiated through the multiple spaces and genres of the classroom activity. Ideologies and practices that restrict educational opportunities arose in the hybridization process, allowing for re-negotiation of the meaning of artifacts, practices and objects. Socio-spatial relationships evolved and students’ concepts of how spaces, discourses, and relationships could help them make meaning and learn about themselves and others expanded. Overall, the study contributes to a) re-imagining youth digital practices, b) understanding how digital technologies afford new ways to mediate interaction across time and space and expand classroom pedagogies and c) connecting processes of identity and literacy development across activity systems.
Purpose of the article: the article presents an educational program that was devised for three girls aged 3–4 who suffer from cognitive and linguistic developmental delay and attend a special-education kindergarten.

The program was constructed jointly by a lecturer in pedagogy, a kindergarten teacher, and a special-education student who did her regular student-teaching in this kindergarten. The construction of the program included theoretical study of the topic, observations of the girls, and evaluations. Implementation took place in fifteen encounters involving group and individual activities for the three girls. All aspects of the program—construction and implementation—were applied during one school year. The program was the student-teacher’s graduation project.

The article first presents the underlying theoretical ideas and methodology of the program, i.e., the rationale behind the construction of the program. Then it describes the implementation and outcomes of the educational intervention that was performed. In addition to this principal goal, it takes a look at the framework within which the student was trained for the task in the current project.

Goals of the project and frame of implementation: the student’s project had two interrelated goals: enhancing the cognitive abilities of development-delayed children in a structured process including examination of the problem and development of a therapeutic educational program for them in kindergarten (the current program, the acquisition of concepts: square, circle, triangle) and development of the student’s professional identity via participation in real and meaningful teaching in a kindergarten—“school-based teacher training.”

Theoretical background: According to Piaget (1974), the cognitive stage attained by children aged 4–6 is a preconceptual one that is typified by difficulty in abstract thinking, lack of conservation, and egocentrism. By and large, this perception is based on a conspicuous characteristic of a given situation or event, even if it is not the only characteristic that exists. Although it is true that children at this stage tend to gather objects into groups, they base the grouping on a symbolic or functional relationship that exists among the objects and not on the objects’ shared characteristics. These traits may impede systematic conceptualization. Furthermore, when the child at issue is development-delayed, s/he may have various difficulties in cognitive functioning, e.g., language and thinking, perception, orientation in space, memory, attention, motor functioning, visual movement
Piaget defines the intellectual-development process as a fixed continuum of phases typified by a relationship between biological age and cognitive development. Vygotsky, in contrast, contends that learning and development belong to one process of “developmental education.” Teaching and learning influence the development of upper-level thinking processes that do not belong naturally to the child’s intellectual baggage (Kozulin and Eilam, 2003). Another aspect of the matter is the idea that the potential for cognitive development depends upon the “zone of proximal development” (ZPD), a level of development attained when children engage in social behavior. Full development of the ZPD depends again on meaningful social interaction.

Vygotsky’s research shows that if appropriately inspiring stimuli are created, children will be able to make the transition from concrete to abstract thinking (Kozulin and Eilam, 2003).

Both Vygotsky’s and Piaget’s teachings share the belief that intellectual development is influenced by activity and continual social interaction with the child’s environment. Acquisition of knowledge is not a process of passive absorption; all knowledge acquired originates in action.

Intellectual change is rooted in the presence of a human mediator. Good mediation leads to reciprocal interest, the creation of stimuli, and the broadening of knowledge. Feuerstein (1998) reinforces these matters by arguing that the learner’s intellectual flexibility may be affected at all levels and stages by mediation processes that are responsible for the creation of cognitive structures. Among special-needs children, too, social environment and mediation are central because development in such children is not absent but rather out of the ordinary.

Accordingly, conditions should be created that will give these children tools allowing them to circumvent their deficiency somewhat and integrate actively into their social surroundings. In our quest for appropriate tools, our starting assumption was that the components of traditional learning address mainly verbal intelligence, which is only one of multiple intelligences that the child may use (Gardner, 1995). Our argument is that to develop conceptualization and language abilities, children’s visual, spatial, and motor-sensory intelligence should be engaged as well.

These fundamentals underlie the construction of our educational program. Accordingly, the project concerns the social environment in the kindergarten, focusing on motor-sensory activity and directed by a mediator (in this case, a student-teacher).

Thus far we described the theoretical background of the educational program from the standpoint of the children’s psychological development. From here on, we present the theoretical background of the program from the standpoint of teacher training, i.e., the training of the student who implemented the program.

Future class and kindergarten teachers perform their graduation projects in their last year of the
degree program. The main goal of the project is to identify a learning (thinking) skill that should be nurtured in order to assure pupils’ advancement. Once the problem is identified, ways to solve it have to be devised, implemented, and discussed. The solution in this case, the concept-acquisition program, should integrate theoretical and practical-didactic knowledge. The theoretical knowledge is gleaned from studies of special-education pedagogy in the specific context of the population group on which the project focuses. The student divides h/her time between theoretical studies at the college and practice teaching in the kindergarten and receives guidance from a pedagogical mentor (the lecturer). The goal of the mentoring is to construct an environment that will support the student-teacher in a way that will facilitate the construction of h/her professional identity. That is to say, the student’s assignment should be based on a meaningful teaching task in an appropriate educational environment. These conditions flow from the Vygotskian perspective on professional development (Van Huizen, Van Oers, and Wubbels, 2005).

Practically speaking, then, the program falls into the rubric of “school-based teacher training.” Its goal is to give the student an opportunity to learn by participating in professionally relevant activity and assuming full responsibility for constructing and implementing the program of studies. “Becoming a kindergarten teacher” means acquiring cognitive, meta-cognitive, social, and ethical skills along with the ability to participate critically in the kindergarten work. Such learning entails broad reflection that builds the student’s “professional identity” (Dam and Blom, 2006, McLaughlin, 2003).

Procedure
At the beginning of the school year, the student begins a two-track course of study: pedagogical courses in the college classroom and practice teaching in a special-education kindergarten. In the first semester, s/he gets to know the children and the faculty and performs extensive self-study of theories and working methods that pertain to the specific population of the kindergarten. After meeting several times, the kindergarten teacher and the student choose together the children who will participate in the student’s educational program and the specific skill that will be nurtured. Next, the chosen skill is subjected to focused learning; concurrently, the student performs observations and updated evaluations that examine the children’s abilities in the specific skill. A language evaluation, for example, tests comprehension, conceptualization, and expression. The evaluation results in the fine-tuning of the program and facilitates the monitoring of progress. While the student-teacher is advised by the pedagogical mentor and the kindergarten teacher, s/he is free to choose her own working methods and learning aids. In the second semester, the student writes and implements the program; afterwards, s/he again performs an evaluation and writes up a discussion and conclusions.
Tools
(a) Language evaluation; (b) model of educational activity; (c) the “Language Development via Visual Education Program” (chosen by the student)—a unique program developed by the artist Yaacov Agam in conjunction with the Weizmann Institute of Science. The program emphasizes the development of visual and memory capabilities that may be used to facilitate cognitive and language development and ability to conceptualize.

Outcomes
For the children, the outcome is meaningful progress in concept acquisition, ability to generalize, and the cognitive and social implications thereof. For the student, the outcome is the development of a sense of self-efficacy and a professional identity that combines academic and practical personal knowledge.

Discussion
The process described above shows that the basic principles of appropriate mediation, multi-sensory activity, and experiencing of an appropriate environment lead to the acquisition of new cognitive structures that open up areas not previously included in the individual’s pool of knowledge. The interesting thing is that this takes place concurrently in the children and in the student-teacher, each in h/her own domain.
The purpose of this paper is to contribute to a broader context for rethinking science learning and teaching by using Cultural Historical Activity Theory (CHAT) as a strong meditative and analyzing tool. Activity theory already steps in its third generation and only a few works have been done on its applications to science education, especially in Europe. The study takes into account more recent developments in activity theory applications in US, Canada and Australia and Europe, such as cultural studies, cultural perspectives and so forth. The paper articulates new ways of thinking about learning and teaching science. The ultimate purpose is to prepare the ground upon which a new pedagogy in science education can be emerged to provide more encompassing theoretical frameworks that allow us to capture the complexity of science learning and teaching as it occurs in and out-of schools.

This work is a review of ten years research on the relationship and the interaction between science Education and museum Education in the context of learning sciences as well as lifelong learning framework. A multi set of papers – over than 25 – from different institutions as schools, museums and universities, is been reviewed under the prism of the Activity Theory. The modern context of the cultural – dialogical turn of science education leads science museums and science centres to become effective learning environments for meaningful learning in science. Issues-based exhibitions: a) provide more robust views of science, b) promote healthy public debate about controversial issues, (i.e. raising public awareness about science – understanding and critiquing the nature of science (NOS) and science, technology, society and environment (STSE)), c) couple science and values, and d) foster scientific literacy and citizenship. Furthermore, e) appeal to our intellect and sensibilities (and often spiritual dimensions), f) highlight the centrality of the personal context, g) raise social consciousness, and h) provide different kinds of hands-on experiences (Pedretti et al, 2008).

Into this enterprise, history and philosophy of science cross with epistemology and education and create culture which becomes structure. This procedure in science museums and science centres is more free, more motivating and also keeps away from any form of any violence when border crossing between parallel interactive systems of various subcultures (subculture of science, personal subculture, societal subculture etc.) (Aikenhead, 2007).

Furthermore, learning in science museums and science centres is embedded with CHAT context, since museum exhibitions are very strong cultural tools and play a central meditative role in learning and making culture.
But, till now, the dominant interpretive theories are limited to Falk and Dierking’s (2000, 2009) as well as Hein’s (2006) explanation models. Only in the field of human computer interaction CHAT is a main interpretive theory (Kaprelinin & Nardi, 2006). We try to expand this discussion even to the usual educational programs which every teacher uses in everyday practices. We argue that CHAT context is the most appropriate context for science museum education and pushes forward the boundaries of science education in science museums and science centers. Old museums, contemporary museums, environmental centers, local museums, children museums, interactive parks, zoos and botanical gardens are some of the recourses which provide bold cultural tools in a enthusiastic and meaningful learning in natural sciences. This review paper examines the debate about how science is re/presented in informal science settings, specifically the possibility of science centers and science museums addressing socio-scientific issues. This way the paper aims to bridge the gap between formal and non-formal learning, and to develop new science curriculum within museum education introducing methodological tools from the field of CHAT linked with current science education literature on the NOS and STSE perspectives.

The analysis of the activities included in the multi-set of papers follows the developmental work approach (Engeström, 2005). Key elements emerge from the Activity-Oriented Design Method. These are related to human - computer interaction. We try to focus on the dynamic characteristics of the interactive systems of activities.

Data have been collected by interviews, video-recordings and e-settings. All data are concerned of how science education is progressing at schools and at the museums. Specifically, our field research, implicates children, teachers, parents and non-scholar commissions (science museum’s guides etc.), in the way it has been proposed in a number of studies (Roth, W.-M., & Tobin, K. (Eds.), 2005).

The discussion goes through all the above paradigms and ends to the necessity of a new pedagogy, a CHAT pedagogy into the field of science education. We expand the discussion to the perspective offered by Marilyn Fleer and Marianne Hedegaard (2010) about children’s development as participation in every day practices across different institutions. We discuss about this theory in relation to the research of Maria Ines Goulart and Wolf Michael Roth (2006) on margin|center participation in order to describe a new pedagogy in the field of science education focusing on collective curriculum design according to a relevant forum (Goulart & Roth, 2010, Fleer, 2010, Plakitsi, 2010).

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268. Accessing the process of asynchronous collaborative writing

Teresa Mauri - Ana Remeral - Marc Clarà

**Background**

In this paper, we present a qualitative analysis of the online supported collaborative writing process of two groups of first year teacher students. We gave attention to the timeline and how the co-writers’ interaction changes over time in response to difficult situations that take place during the process.

From our sociocultural perspective, we understand collaborative writing as a cultural activity that develops deep beneath the surface. Writing is not just about the text, but about the text in the author’s context, with a purpose, and for an addressee. Nevertheless, beyond this, writing in collaboration with others demands a willingness to share the purpose and the addressee, as well as the contents to be written. This process of sharing demands the regulation of the participants’ contributions in balance with each other. Every single action and contextual circumstance must be considered as part of a joint activity in progress, as Kaptelinin and Nardi (1997) argue. According to an activity theory approach, the whole interaction process defines the task itself, which is continuously re-created along the process, re-orienting the participants’ actions. Participants, in turn, do not only build new socially constructed knowledge, but also simultaneously develop competencies for collaboration (Amhag & Jakobsson, 2009).

Based on some authors (Erickson (1982); Green, Weade, & Graham (1988); Stodolsky (1988), it is possible to distinguish between the participation structure, on the one hand, and the task structure, on the other. The participation structure (PS) refers to the way the interacting participants (often implicitly) decide along the process on how, when, and concerning what, they will base their interaction upon. The task structure (TS) refers to the progression of the task itself, particularly, what the expected product should look like, what it should deal with, and which actions should be undertaken in order to achieve the intended final product, on the other hand. These interactional processes, both the evolution of participation and task structure, need to be located in a temporal context. Reimann (2009) points to the necessity of reconsidering the study of computer-supported interactional data taking the event as the main unit of analysis. This proposal stands in line with the concept of critical event in the study of group processes. In this study, it is our contention that critical events can both result from, as well as provoke, changes in the task structure and in the participation structure of the group’s shared work process. In other words, a participant’s intervention concerning the realisation of the task may induce some conflictive moment, with which the group needs to handle. This may affect their participation structure, or it may cause the group to
look for a new strategy in order to work together more effectively. An in turn, a sudden change in the participation structure might have consequences on how the group manages the task. It is especially the process what we intend to focus on in this study.

**Research questions**

The general aim of our research is to provide a comprehensive account of the computer-supported writing process in collaboration in a virtual space-and-time distributed context. We understand that the writing process must be studied under a global interactional perspective, paying attention to the participation structure in connection with the task structure. We concreted this global aim of the study in the following questions: How do the participation structure and the task structure evolve over time? How does the one influence the other? What sort of events do have a hinge-effect on the process?

**Participants**

Two groups of first-year teacher-students collaborated virtually, distributed in space and time, with the goal of writing an assignment in collaboration for an Educational Psychology course at a School of Teacher Education. The task was carried out entirely on-line during five weeks and a half at the end of one full year academic course. No roles were indicated for the completion of the task with respect to students’ organisation. The instructor gave orientations about a minimal common structure expected for the essay. The paper was part of the examination of the course. The virtual platform (Moodle) included different tools for the completion of this collaborative task: an archive of course readings, and a specific “mail-box” for delivery of the draft and the final assignment and also for receipt of feedback from the teacher, and three different asynchronous forum-spaces (one for general news given by the teacher, where the students had a reading-only role; one for whole-class discussion and clarification of doubts, and finally one for small-group work, which the group used to carry out the task). In other words, the students did not have any tool specifically designed for carrying out the collaborative writing task. This design decision stands in coherence with the intention of understanding natural processes as they happen, instead of creating ideal but also unreal circumstances.

**Data and Analysis**

We gathered three different and complementary kinds of data for this case study. First, all the log files and messages to the small-group forum over the five weeks; second, the attachments to those messages were collected as well; and third, the students’ self-reports reflecting about their work
process during the activity. We carried out a qualitative analysis with complementary techniques. First we performed a content analysis of the forum postings categorising the students’ written interaction into three dimensions: task management, participation management, and meanings management; second, we developed an ad hoc visualisation tool that gave access to the process in its own time evolution.

Results

Results of the analysis show that the groups of students differed very little in terms of quantitative aspects (frequency of each category) but very much in terms of the activity evolution as deployed by the visualisation tools. This reinforces the need of techniques and tools that allow accessing the process. Through the analysis the authors identified critical events with a hinge effect on the students’ interaction. The presentation will focus on the comparison of both groups, on how each tackled the task and coped with conflicts along the activity.
We start from the Cultural Psychology perspective (Boesch, 1996; Bruner, 1996, 1998, 2001; Cole, 1996, 2006; Cubero, de la Mata & Cubero, 2008; Eckensberger, 1990, 1995; Santamaria, Cubero & de la Mata, 2010; Shweder, 1991, 1999, 2000; Wertsch, 1998, 2000) in which human development is viewed as a product of social life and the human social activity. It is viewed as a process of interaction between individuals, cultural tools and the activity setting in which individuals develop. So, as Cultural Psychology, we assume dialectic, functional and co-constructive view of the relationship between mind and culture (Santamaria, Cubero & de la Mata, 2010). That means that mind and culture are created mutually through the human actions in historical-cultural settings. The psychological actions that individuals carry out in a particular activity setting determine the use of discourse genres as well as ways of thinking derived from these.

Cultural Psychology also proposes, as Billig perspective (1987), that thinking or knowledge must be conceded as a way of argumentation. In this context, as Vygotski (1986), Luría (1976) o Scribner (1977) did before, Bruner (1986, 1996, 2001) underlines the close relation between activity settings and ways of knowledge or ways of argumentation. In this way, he proposed two ways of argumentation. The narrative argumentation use, as meditational means, concrete, contextualised and situated signs. We can say that “reality” constructed through language is composed by objects, individuals and actions that are familiar or belongs to the everyday experience for the one who tells it. Propositional argumentation use, as a mediational means, abstract, decontextualized and non situated signs. Many of the realities constructed by these means do not exist in the personal experience of the individual except for the presence of language.

So these different ways of argumentation are different forms of meaning construction, of understanding reality, of concept formation and, therefore, ways for making sense of experience. In this sense, they differ in the way in which meaning is achieved. The most contextual or everyday ones provide an interpretation of events, rather than an explanation through orders experience temporarily to create a story. In the most formal or decontextualized ones, meaning is achieved by abstraction, sacrificing temporality, personalization and context. Other important aspect of these two ways of understanding is the different ways of their verification procedure. They two may be used as a way for convincing the other. But which they are convincing is very different. The first one convinces of the similarity with the reality, with the everyday life and for that, the most important aspect is not the true but the similarity. The second one convinces of its true and the
verification is made by procedures which let us formal and empirical tests (Bruner, 1986, 2001).

From this perspective, an empirical study to address the relationship between activity settings and types of concept was conducted. For testing this relationship, individuals from two different levels of education, three different generations, and from the two border area between the states of Tamaulipas-Texas participated in the study. The participants solved a concept formation task in which they had to answer two formal (the concept of border area and inhabitants of border area) and two informal questions (their valuation on the fact of being inhabitants of border area and their position in a scale about their consideration of how Mexicans, North Americans or mix they feel).

So, for the study, we have chosen three socio-cultural and explicative dimensions of study. We assume that they reflect different activity settings, in which a particular psychological functioning (that is mode of arguing and types of concept) takes place. Three variables were used: (a) Educational level (basic and high levels), (b) Generation or different migratory policies (young, intermediate and old generations) and (c) Country or border side (inhabitants from Matamoros -Tamaulipas- and from Brownsville –Texas-).

The data show that school experience had an important influence on formal questions. Individuals from different levels employed different criteria of concept formation and different discourse genres to argue. But in informal questions we found, as we expected, no significant differences between two educational levels in the way that they answer the informal question. So, in all the categories we found the same pattern of answer, regardless of the educational level of the participants.

Participants from basic educational level performed the formal and informal questions in the same way. They based their definitions on functional criteria (Scribner, 1977) and they justified their concepts with very concrete, contextualized and situated signs, I mean, by using narrative discourse.

To sum up, people of basic educational level in both, formal and informal questions, always used the categories that imply the most concrete, contextualized and situated signs, in all the criteria used to analyzed the way that they used to define border area and inhabitant of border area. It is something like if they had difficulties to interpret the formal questions as something different from informal question. In contrast, participants from the high educational level performed the two kinds of questions in a very different ways. They solved informal question in a very similar way that basis educational level performed the two kinds of questions. I mean, using concrete and contextualised and situated signs. But, In contrast, in the formal questions they showed a marked tendency to use more abstract, decontextualized and non situated signs to define border area and inhabitant of border area.

About the influence of Generation, as we expected, there were not significant differences between the three generations in their way that the participants answered the formal question. All of the
participants solved formal questions (the concept of border area and inhabitants of border area) in a very similar way, regardless of their generation. Also, we found, as expected, significant differences between the three generations in their way that the participants answered the informal question. Persons should performance the informal question (their valuation on the fact of being inhabitants of border area) in a different way depending on their generation. Participant from the youngest generation used mostly positive orientation utterances in their valuation on the fact of being inhabitants of border area. Participant from the oldest generation, in contrast, showed a significantly lower used of positive orientation utterances. Participant from the oldest generation showed a significantly lower attitude for being from USA. Participant from the youngest generation, in contrast, showed the opposite pattern.

The third explicative variable, the country, influenced on formal and informal questions. So the last one was the most determinant cultural setting in the way that participant resolved the concept formation task. As most illustrative data we can say that the participants from Matamoros solved the task, the informal and formal questions, like the participants with lower educational level, independently their educational level. Another interesting data was that the participants from Brownville did not feel inhabitants of border, as the participants from Matamoros did. They always talked about the people from border in third person of plural, never in first person.

Similarities and differences between the participants were interpreted in terms of the hypothesis of the heterogeneity of verbal thinking (Tulviste, 1991, 1999), depending of their participation in the activity settings associated to both kinds of questions. This hypothesis implies: the existence of different ways of thinking in one culture and in a same individual; ways of thinking differ qualitatively in the terms of the tools used and the way in which these are acquired; but do not differ in the efficiency or superiority of one over another; new ways of thinking do not replace others, but compliment these. Thus, the same individual does not always use a single and homogeneous way of thinking, it depend on the demands of the context. Rather, different ways of thinking coexist in the same individual.

This relationship between verbal thinking or ways of argumentation and activity settings could explain both the universal aspects in psychological processes in different cultures as well as ways in which different cultures differ. The universal aspects exist because of the existence of common cultural activities or practice. The not universal aspects are related to the specifics of particular practices.

We may conclude this paper by saying that this form of conceiving activity settings explains the similarities and differences observed in the two groups of participants in each task. The notion of heterogeneity that we have applied in the study is based on the assumption of a relationship between
activity settings and ways of thinking that is mediated by the semiotic tools whose use is privileged in certain socio-cultural activity settings. The use of one semiotic tool or another depends on the way in which the individual interprets the task setting and on the semiotic tools that he/she has at his/her disposal. In this sense, we may say that the individual and the activity setting influence each other.
The networked classroom is the new workplace for the teacher: Student/computer ratios are diminishing, computers are linked to the Internet, one-to-one classrooms are growing, and Negroponte’s “green machine” are being sold to governments of developing countries. However, Cuban’s “oversold-underused” claim is to be kept in mind by teacher leaders and others exercising technology leadership. He and other educational researchers have evidenced that, despite increased access to ICTs in both classroom and home environments, and increased support and opportunity for relevant professional development, the use of ICTs in instruction remains either infrequent or at a minimal level of drill-and-practice activities for a majority of teachers (Cuban, Kirkpatrick, & Peck, 2001; Ertmer, 2005; U.S. Department of Education, 2003). That is to say, once access issues fade into the background, the problem of achieving widespread and effective use of digital tools by K-12 teachers in their instructional practice is both contextual and pedagogical (Bracewell, Laferriere, & Breuleux, 1998, 2001).

Ethnographic data were gathered in one site, a school-within-a-school secondary education program for fifteen years (1995-2010). The researcher observed teachers working in networked classrooms (one-to-one laptop classrooms), and engaged in dialogue with them. Hundred of pages of notes were taken, and specific studies conducted. For this paper, the cultural-historical activity theory approach was adopted to analyze the tensions and resolutions that led to teacher expansive learning (Engeström, 1999). This socio-constructivist perspective, also known as sociocultural and developed from a specific interpretation of the Moscow circle’s activity theory, has origins in older works that conceptualized the situatedness of people in practical activity within a shared world (Marx 1867/1976; Heidegger 1927/1996; Vygotsky 1930/1978; Husserl 1936/1989; Schutz 1967).

Over the years, the main tension (or contradiction) revolved around student learning evaluation. Teachers inclined towards democratizing knowledge chose a pedagogy that sought to engage students in deep constructivism. They struggled between knowledge telling and knowledge transforming – notions borrowed from Bereiter and Scardamalia 1987, 2004 who developed a theoretical cognitive perspective integrating socio-constructivism and contemporary cognitivist research coming from different sources (information processing theory and connectionism) and from a Popperian epistemological standing. The same teachers taught math and science: they tended to engage more in knowledge telling during math periods. They resolved their internal
tension by engaging students in project-based learning in which math was integrated with science. In those moments, knowledge-transforming strategies were problem solving, and even knowledge building, that is, a collaborative active reworking of thoughts. Students’ increasing ability to deal with knowledge – to construct it, view it from different perspectives, criticize it, and improve it – remained considered as “soft” skills by the school district and parents and a source of tension. Once the results of a study conducted on student performance in college were known, the tension alleviated. However, the school district reestablished local exams that a previous generation of administrators had dropped at the onset of the program, thus new tensions arose. The school principal is currently fighting this new policy.

Our paper will point to other tensions and their resolutions (for a time being), in an effort to illustrate how working in networked classrooms is a practice that challenges old pedagogical and administrative practices, thus a source of tensions and contradictions in an educational system. Means of resolution of tension, whether they were temporary or permanent, will be identified and their role in generating change will be dwelt upon.

Out of this presentation, the audience is likely to get a better sense that the integration of new tools (computer hardware and software) only scratches the surface of what is at stake in our progressive immersion in networked classrooms as teachers and learners.
Educational policymakers emphasize the need to evaluate curriculum in schools by using standardized tests to measure how much knowledge students learn from engaging with instructional materials. An alternate view of curriculum and its effects conceptualizes curriculum as a site for identity development, where participants (both teachers and students) engage in acts of exploring, translating, positioning, and responding in ways that orient them to and propel them into new social futures. Curriculum can encourage translation of ideas into and out of disciplinary ways of thinking and doing, not just focus on the eradication of misconceptions about the natural world. Curriculum can enable students to position themselves vis-à-vis disciplines and one another, in ways that recognize their agency, interests, and knowledge (Lee, 2001). Curriculum also enables response, not just by students, but also by teachers, peers, caregivers, and other adults to the emerging interests and identifications of young people, in ways that connect them to learning resources and experiences and to people who can advance them toward a future of their choosing.

This paper explores the idea that a primary goal of educational evaluation should be to assess how well programs help to transform the identity trajectories of students who participate in curriculum activities. By identity, we refer to the work young people do across a range of contexts to develop and pursue interests that allow them to project themselves into the future. This includes acts of social positioning and identification that take place within classrooms, as part of discipline-based, institutionalized practices of teaching and learning (e.g., Bricker & Bell, 2008; Hegedus & Penuel, 2008; Wortham, 2004). But evaluating a curriculum’s success in transforming identity considers also organized out-of-school activities where acts of translation and response may occur (Gutiérrez, 2008; Heath & McLaughlin, 1993), contexts that may require young people to organize themselves, so that they can pursue or develop an interest (Bricker & Bell, 2009; Heath, in preparation), possible selves (Markus & Nurius, 1986), and new imagined futures.

Evaluating a curriculum from the standpoint of how well it supports a particular person or cohort’s identity trajectory is challenging, though, since one’s own future is never only the product of curriculum or of an individual’s imagination. Identity trajectories depend on the development of relationships with others who can recognize emerging interests, stabilize social reputations around those interests, and broker access to opportunities to further develop those interests and have them rewarded. The idea that individuals’ identity choices depend on recognition by others is one that has
been developed both within psychology (Erikson, 1968; Mead, 1934; Sampson, 1993) and philosophy (Ricoeur, 2005; Taylor, 1992). Recognition is fundamental, because identities are formed not in isolation from but in dialogue with others (Hermans & Kempen, 1993); identifications expressed in talk and gesture both respond to and anticipate audiences in the speech situation and cultural representations that circulate in the worlds they inhabit (Penuel & Wertsch, 1995). Furthermore, who recognizes an identity is important: many, if not all young people need people who can serve as cultural brokers (Cooper, Denner, & Lopez, 1999) or sponsors (Brandt, 1998) with whom they have a close relationship and who can help them gain and maintain access to powerful opportunities to develop as persons.

With a focus on understanding the identity trajectories of participants, two central questions for evaluation of curriculum are:

- How well can curricular experiences support young people in becoming who they imagine they could be?
- How well do curricular experiences help others in schools and other contexts support the development of those interests and connect them to the people that can advocate for them in the next step young people wish to take?

In this paper, we explore how these questions could organize an evaluation of an elementary science curriculum unit, Micros and Me (Tzou, Bricker, & Bell, 2007), which has as an aim surfacing students’ home and community practices in the classroom so that they become central to the experience of teaching and learning science. The ways students are intended to engage with materials and practices of the curriculum connect authentic scientific practices deeply with students’ areas of everyday expertise and provide teachers with the opportunity to develop repertoires of practices that are more deeply culturally relevant (Ladson-Billings, 1995) to multiple classroom participants.

Three practices of the curriculum and its design team are appropriate targets for evaluation, since they provide opportunities for young people to bring and develop interests in the contexts of learning about topics at the intersection of the traditional school domains of health and biology. The first is a technique of self-documentation to elicit students’ everyday practices around health. Self-documentation is a photo-elicitation technique from the health field (Clark-Ibáñez, 2004) that allows teachers and students to see, from the students’ point of view, how youth engage in cultural practices outside of school that relate to the focal topics of the curriculum unit. The second practice is the explicit incorporation into the curriculum of opportunities for students to pursue and explore a topic of their own choosing, related to the topic at hand. Student choice, even within so-called “inquiry curriculum” in science education is rare, in part because it imposes significant challenges
for teachers to manage multiple questions of students in the context of group instruction (Kemp, Tzou, Reiser, & Spillane, 2002). Micros and Me addresses this challenge by scaffolding individual and small group research practices, leveraging topical resources from year-to-year, and enlisting the assistance of family members and other adults in the research project inquiry. A third practice of the team is their formation of enduring relationships not just with teachers, but with young people and in some cases their families, which enable them not only to learn about the curriculum’s shorter- and longer-term effects from different perspectives but also to serve in some instances to broker access to new learning opportunities and resources young people may want to pursue (Bell, Bricker, Reeve, Zimmerman, & Tzou, in preparation).

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Introduction

Classroom discourse is traditionally considered as the tool through which most transactions in school take place. Within this general framework, the basic linguistic routine is the so-called triadic discourse, generally defined as IRE (initiation-response-evaluation) or IRF (initiation-response-follow up). Such kind of exchange has been first described in the seventies (Sinclair and Coulthard, 1975), and then further elaborated by many authors (to cite just a few: Candela, 1999; Mehan, 1979; Myhill, 2006; O'Connor and Michaels, 2007; Wells, 2006).

The three-part exchange allows teachers to pursue their pedagogical and didactical aims, and ensures the control and order of linguistic exchanges. In a class of about 25 to 30 individuals, it is undoubtedly necessary that somebody guarantees the discussion to proceed in an orderly manner, and that all participants are assigned turns in the conversation.

However, the prevalent attention given to the IRF exchange in the analysis of classroom discourse has been criticized from several points of view. For example, Wells and Arauz (2006) argue that the privileged focus on such kind of exchange has reduced classroom discourse to a ‘recitation script’, providing little opportunities for children to voice their own ideas or perspectives and disadvantaging children from cultures in which this form of interaction is uncommon. In the same direction, it has been suggested that IRF is a mechanism that directs students towards competition in giving the ‘correct’ answer, while it does not encourage intellectual curiosity and exploration.

Other critical aspects are even more striking. They concern particularly three aspects, which are strictly connected to the methodological choices and the data analysis. One is the scholars’ tendency to focus on one unit at a time, the second refers to the consideration of classroom discourse in terms of a dyadic exchange, the third has to do with the topic of teacher’s power.

Wells (1996; Nassaji and Wells, 2000) has been the first to argue that the analysis of anyone single triplet is often insufficient for understanding linguistic exchanges in schools. In everyday conversations, teachers and pupils’ interactions are frequently expressed through the use of multiple triplets which are arranged into chained lists giving meaning to what is actually happening in the interaction. He therefore proposes to consider as the basic unit of conversation the sequence made up of a nuclear exchange and many bound exchanges, judged as necessary by the participants to complete what was initiated in the nuclear exchange.

The second criticism regards the tendency to consider classroom discourse as mainly consisting of a
series of dyadic exchanges: Teacher asks a question, pupil responds, teacher comments and assigns
the next turn, pupil responds, and so on. However, natural exchanges in classes’ everyday life are
much more complex. Focusing on IRF, researchers run the risk to artificially break up complex
interactions into simple and artificial dyadic exchanges.
Moreover, it is taken for granted that IRF is an expression of the teacher’s power in classroom
discourse, while this is not necessarily true. In a very interesting contribution, Candela (1999)
shows that IRF is not automatically confirming the asymmetry between students and teacher
interaction, as well as the latter’s power. Using several devices, students are able to control their
speech and also that of the teachers or of the other students.
Sharing these concerns about the use of IRF as a basic unit of analysis, our contribution intends to
underline one more limit of the literature of classroom discourse, concerning the underestimation of
the public nature of classroom discourse. Within a class, any exchange, even the most simple
teacher’s answer, pupil’s response, teacher’s follow up, is public by its own nature, since all other
students assist to such exchanges, and often intervene or comment. Even when they do not
explicitly participate, the very simple fact of assisting to a teacher-pupil exchange makes ‘the rest of
the class’ an active participant, whose role shall not be underestimated when analysing classroom
discourse (Molinari and Mameli, under evaluation). Any time the teacher asks a question, all pupils,
also those who are not selected in that moment, are encouraged to find an answer. They sometime
may also intervene without being selected, or they can add comments and even evaluate not only
the pupil’s answer but also the teacher’s question or the follow up.
With this paper we want to make a contribution to the analysis of classroom discourse focusing on
the identification of sequences in which the triangular or multiple-parties nature of linguistic
exchanges is evident.

The corpus of data
The data base of the present work is made up of video recordings collected in five classes at a
public primary school in Italy. The classes are third grade, and the pupils are 8 to 9 years old. All
groups comprise a number of 20-26 pupils, about half girls and half boys. On average, 85% of the
pupils in each class are of Italian origins, while the rest are immigrants from several cultures.
The video recordings were collected when teachers (two for each class, ten teachers in total)
organized activities of history or sciences. Overall, our corpus of data comprise about 13 hours of
video recordings. The transcriptions were made devoting particular attention not only to the
linguistic exchanges but also to the positionings and reciprocal orientations of pupils and teachers.
The analysis was made on all the sequences in which a public aspect of classroom discourse was
made evidenced.

First results
The data analysis is still in progress. However, we have already identified different ways in which the public nature of classroom discourse is expressed. One concerns the unexpected intervention of a pupil who was not selected by the teacher for the response. This pupil may: a) provide the answer before the selected pupil, therefore substituting; b) comment on the selected pupil’s answer; c) provide an evaluation of the selected pupil’s response, or of the teacher’s question or follow up. When the dialogue becomes triangular, like in these cases, the teachers may act in two different ways: they can either accept the triangulation and encourage it with further exchanges, or rapidly redirect the exchange to its dyadic form.

A second distinction shall be made between the acted or verbally explicit triangulations (as in the form described before) and the symbolic ones, given for example by all sequences in which the ‘rest of the class’ is evoked, either by the teacher or by the pupils, as participant spectator of what is going on in the acted interactions.

The implications of the different ways in which the public nature of classroom discourse is displayed are discussed with reference to: the use of the whole class as a ‘resource’ or an ‘obstacle’ to the daily work and the teachers’ didactical aims; the consequences in terms of learning and teaching; the impact on the teacher-pupils relationships and on the pupils’ reputation; the threatening of the teacher’s power in class.

References
1. Objectives

This paper presents a study looking at five factors related to educational quality in primary schools in Nuevo Leon, Mexico. There were two research questions investigated in this study:

1. Which characteristics have schools to be considered “high quality” schools, in relation to a variety of associated factors such as: a) classroom pedagogic strategies, b) teachers’ competencies in literacy and numeracy, c) school management, d) infrastructure, and e) parents’ involvement?
2. What is the gradient of educational quality for schools in relation to the mentioned associated factors?
   a. What differences and similarities can be identified amongst schools?
   b. To what extent this gradient informs the transformation of educational practice in relation to the students’ obtained scores of academic achievement?

2. Method

For this study, the schools were selected using as a criteria the scores obtained by Nuevo Leon students in ENLACE (2007-2008), a national achievement test in Mexico. According to the statistical median of the results, we selected 19 schools: 6 schools with high achievement, 7 schools with average achievement, and 6 schools with low achievement.

3. Data sources

Eighteen research assistants participated in this study collecting data in relation to classroom discursive strategies, classroom management and infrastructure. Assistants were previously trained and participated in research seminars every 15 days for 6 months while the data was collected in schools. In these seminars procedures were revised and the problems of data collection were discussed in order to find informed solutions; this helped students to construct good relationships with school communities.

For the application of tests measuring teachers’ competencies in literacy and numeracy we provided appointments for groups of teacher to come together to the CRNU in order to control the communication amongst teachers about the test.

4. Results

The results are divided into 3 main sections: 1) social expectations about educational quality, 2)
main findings of this study and 3) recommendations.

4.1. Social expectations

There were three main types of expectations: a) about the educational system, b) about the school, and c) about the teacher. Correspondingly, the participants expected that the educational system should be useful for developing citizens and not only for socializing information, that government and enterprises should be able to collaborate and to distribute efforts evenly, as well as to reduce bureaucracy to the minimum time required for teachers and head teachers. In relation to expectations about schools, participants expressed their desire for more autonomy, for more involvement and active participation from different agents in the community, as well as for a highly prepared staff, well paid and socially recognized teachers in the community. Finally, in relation to teachers, participants expected teachers to have at least the same skills that they ask students to develop such as good reading comprehension, good writing skills, analysis and synthesis skills, planning strategies and a mastery of the knowledge domain they ask students to learn.

4.2. Main findings

We divided the results into 5 main aspects corresponding to the investigated associated factors: a) pedagogical strategies, b) teachers’ competencies, c) school management, d) infrastructure, and e) parents’ involvement.

In relation to pedagogical strategies, we found out that the score of the ENLACE achievement test was directly correlated to the activities carried out in classrooms such as reading, group work, exercises, etc., when they are carried out by students, not only by their teachers. Similarly, we found that ENLACE scores were directly correlated to the richness and variety of technological tools used in classrooms. In relation to the interaction and communication strategies developed by teachers, we found that low-quality schools use basic interaction strategies such as direct probing and guided questioning twice the frequency of time used by high-quality schools. Medium schools use 66% of their time in dialogues involving elaboration and reformulation. Finally, high-quality schools use advanced strategies such as recaps, literal recaps and constructive recaps.

On the topic of teachers’ competencies, in our study we found that in low achievement schools teachers with high level of competencies in literacy and numeracy have an important impact in the achievement of students. Moreover, we found that teachers with high skills in literacy were more competent for teaching other areas of the curriculum than teachers that were only advanced in numeracy skills.

On the subject of school management we found that high quality schools are schools that are well positioned within the community and have a good public image. Head teachers have a clear leadership with their fellow teacher colleagues. They are well equipped not only by the state and
federal government, but also by the efforts they make for funding their school locally. Teachers receive support from school to develop projects aiming to solve problems in a few number of school year cycles.

In relation to infrastructure we found that high quality schools tend to have more ICT and audiovisual equipment, sanitary facilities, management office, school store, and few insecurity and gang related problems. On the other hand, intermediate and low schools have more problems. In particular, low schools have an important deficit on the maintenance of the building and the quality of services such as water, electricity and telephone. Additionally, high quality schools generally have at least one group per grade and are located in urban areas.

On the topic of parents’ involvement we found that parents in high quality schools are, in general, professionals with medium income. Parents from intermediate schools usually are working class with low income and parents in low quality schools usually work in the primary sector and many of them are unemployed.

In the high-quality schools parents are engaged with their role in schools and collaborate in everything they are asked to do, and at the same time are aware of their rights and are demanding about their fulfillment; school meetings are usually more productive in academic terms. Parents in intermediate schools usually get involved in celebration periods and the relationship with teachers and head teachers is respectful but distant, so that communications tend to be one-way. Parents in low quality schools usually do not have an established relationship with the head teacher.

5. Scholarly significance of the study: Conclusion and recommendations

There is evidence that high quality schools develop a pedagogy focused on the student and have head teachers acting as clear leaders within their community, promoting collaboration and a good atmosphere for working together as a team. On the other hand, teachers are not trained as professionals with the required competencies to educate students in the so-called knowledge society. Thus, we have evidence in our study about many of the teachers using a rationalist approach to pedagogy conceptualizing cognition as separated from communication and interaction. Consequently, it is important to inform their practices with a more progressive view of education including a sociocultural Vygotskian approach to cognition where culture, cognition and communication are related in situated events and communities of practice.

The recommendations of this study include:

a. Teacher training using a problem-based learning pedagogy, focusing on the student
b. Assuring a minimum level of infrastructure, including sanitary facilities, ICT tools such as Interactive Whiteboards, Internet access, and ecologically attractive spaces for interaction for all members of the community
c. Continuous professional development courses defined by the teachers and their own needs

d. Creating a distributed computer based system for accessing and entering all the information of students, teachers and supervisors so that this is used as a platform for a more transparent and efficient school management system

e. Developing a repository of open educational resources to be used in lessons and open and distance learning systems to be shared by teachers

f. Creating a system of teachers-researchers of their own educational practices so that they could monitor each others’ pedagogic strategies through the use of videos and field notes

g. Implementing an autonomous model of development for schools so that the school community can take their own decisions and put in place their own funding schemes to develop their own projects

h. Creating a citizen-run observatory for educational policy and pedagogical practices, assessing the advance of educational programs and projects, thus becoming an independent voice of educational assessment

i. Linking the development of school programs to social programs within the school community, such as drug abuse, bullying, street gang violence and others,

j. Promoting a better social recognition for the work of teachers so that they can be valued and paid as other professionals such as engineers, doctors and lawyers.
The study is based in two hospitals, one in Melbourne and one in London, and examines the work of staff employed as play specialists with children in both settings. Play therapy is an established role in hospitals that admit children and the role of play specialists is primarily educational, enabling young children to make sense of their time in hospital. In that role they find themselves operating as advocates for these children when discussing with medical practitioners how a child might interpret their treatment. In Vygotskian terms, the play specialists are enabling the child’s right to create a social situation of development within the often rigid medical practices to be found in hospitals.

The study is employing the idea of relational agency (Edwards 2005, 2009, 2010) to understand the dynamic that occurs when practitioners from different practices collaborate on a joint task. Relational agency is a capacity that emerges in a two stage process within a constant dynamic, which involves:

(i) working with others to expand the ‘object of activity’ or task being worked on by recognising the motives and the resources that others bring to bear as they too interpret it;

(ii) aligning one’s own responses to the newly enhanced interpretations, with the responses being made by the other professionals as they act on the expanded object.

Its exercise is mediated by the development of ‘common knowledge’ which is comprised of ‘what matters’ for each participating professional e.g. the rights of the child in the case of the play specialists and the needs of the patient in the case of the medical specialists. Common knowledge acts as discursive ‘glue’, which enables practitioners to recognise the standpoints of the others, while at the same time allowing each person to exercise their own specialist knowledge when responding to the child’s wellbeing as the object of professional activity.

The study

In the pilot phase of the study, four play specialists each of the two hospitals were each observed by one of the researchers for a half-day period during routine tasks and interactions, including hand-over meetings at the end of regular ward rounds. At the conclusion of each half-day observation, the researcher and play specialist met for approximately half an hour to discuss the interactions with other professionals that had occurred during the observation. These discussions, which were audio-recorded and transcribed, focused on the ways in which the HPS had interpreted the motives and resources other professionals brought to specific interactions, and how and why the HPS decided to
engage with (or not) these motives and resources.

The analysis

The study provides the opportunity to test the relevance of relational agency and common knowledge, as analytic concepts, developed in the context of inter-professional collaboration in the welfare professions, in a new setting. The analysis to be discussed in this paper will focus on the development and use of common knowledge in the exercise of inter-professional relational agency. It will particularly attend to the use of common knowledge by play specialists when they negotiate the child’s needs as a person with their medical specialists, in order to expand understandings of the child as object of activity and to bring into play the child’s agency.

Initial analyses are revealing that these negotiations form a significant element in the work of play specialists who develop expertise in the professional multilingualism that allows them to engage with the concerns of medical professionals, while holding fast to what matters for them as professionals who are concerned with children’s capacity to develop congenial social situations of development within hospital settings. This capacity exhibits the signs of what Edwards (2010) has described as ‘relational expertise’ which is an additional form of expertise necessary for cross-boundary professional negotiations on complex tasks.

Implications

For theory: These new concepts are being tested within a setting beset by power differences and in a context where the ideas underpinning both relational agency and common knowledge form part of the regular work of the focus participants. The data distinguish between core expertise and relational expertise in ways which add to the growing body of work on these concepts.

For practice: The study is demonstrating the importance of relational expertise to inter-professional collaborations in hospital settings. These settings are notoriously difficult places for inter-professional work, despite this being a routine feature of hospital practice (see e.g. Bleakley et al. 2006). In addition to implications for hospital settings, the study has the potential to inform the preparation of early childhood educators, who are increasingly called upon to work in multi-professional settings such as children’s ‘hubs’ (over 40 of which have already been established in Victoria, Australia).

References


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Authority and modes of control: Developing professional knowledge in school-to-school support

David H. Eddy Spicer

1. Introduction

This paper presents a theoretically-informed framework for critically examining the development of professional knowledge in school-to-school dyads. Worked examples that illustrate the use of the framework are drawn from a pilot study of one pair of schools. A central paradox of contemporary reform in education is the tension between devolution and new forms of centralisation (Ball, 1998; Whitty, Halpin, & Power, 1998). One manifestation of this tension lies in contradictory policy mandates that, on one hand, emphasise the development of local practice through collective knowledge building while, on the other hand, give priority to centralised standardisation of practice and accountability towards proscribed outcomes (Wallace, 2008). School-to-school support arrangements for bringing about change confront this contradiction directly through state-sponsorship of explicitly pedagogical relationships between schools. In these organisational dyads, a lead support school is designated to work with an underperforming supported school (Hill & Matthews, 2008, 2010). The framework advanced in the paper articulates ways that conditions within settings of change influence the possibilities for what can be learned and how it is learned. The central argument is that such conditions are aspects of institutionalised patterns of interaction, or institutional modality. The methodological argument advanced is that study of institutionalised patterns of interaction in interorganisational support depends on examining relationships amongst three inter-related attributes explained in the section on Theoretical Frame below: dynamics of authority, dimensions of professional knowledge-building and institutional modality.

2. Theoretical perspectives

The framework elaborated below is rooted in sociocultural perspectives on educational reform that take the enactment of policy as an intertwined process of individual and organisational learning (Honig, 2008; Hubbard, Mehan, & Stein, 2006). Key elements of the framework elaborate this perspective. A fundamental articulation is the view of learning as a process of knowledge-building through movement between everyday and scientific concepts (Vygotsky & Kozulin, 1986). A further contribution is the notion that authority is integral to what is learned and how knowledge is built around professional practice (Eddy Spicer, 2006). Finally, patterns of authority can be linked
to characteristic institutional conditions, or modes of control (Bernstein, 2000; Daniels, 2008; Douglas, 2003). The following section explains each of these in turn—types of authority, dimensions of professional knowing, and institutional modes of control.

Sociological discussions of authority have led to the elaboration of various typologies. A typology useful to discern dynamics of collective knowledge encompasses three types of authority—managerial, operative and epistemic (McLaughlin, 2007, pp. 72-73). Managerial authority is defined here as the right of certain people to issue directives and have those directives followed based on their position. Operative authority has come to the fore with increasing attention paid to collaborative working within and across schools. Cooperative groups, such as a senior leadership team, bestow this type of authority on certain members either directly or indirectly to carry forward matters on their behalf. Epistemic authority as used here refers to acknowledged disciplinary expertise. These three types of authority are present to varying degrees in all professional interactions.

Paavola and Haakareinen’s (2005) three metaphors for learning allow the characterisation of ideal modes of learning associated with each type of authority. The first mode is that of acquisition, which views knowing as a direct transmission. This monologic form might be typified by command-and-control in an institution in which orders are received and carried forward, typified by a rigid and hierarchical managerial authority. The second characterization is that of participation, in which knowledge and knowing reside in social interaction. Participation corresponds with an emphasis on the collective and thus prioritizes dialogic forms of operative authority. A third characterization, knowledge-building, is a development of the dialogic form. Knowledge-building goes beyond participation to draw attention to the development of new knowledge through the interweaving of everyday and scientific concepts. This triologic form foregrounds epistemic authority.

The framework uses sociologist Basil Bernstein’s theories of pedagogic discourse and modalities of control to relate dynamics of authority and forms of collective knowing to institutional form. Bernstein (2000) identifies two key dimensions through which the institution conditions patterns of authority and prospects for knowledge building. The first is the approach to curriculum and the degree to which curriculum categories are viewed as fixed by external mandate, on the one hand, or open to internal definition, on the other. The second is the approach to values, which can vary from an explicit and shared moral order to one in which the moral order is implicit and highly-
personalized. Thus, the two dimensions of curriculum and values, varying separately, can be used to characterize different institutional modes of control.

3. Focus of enquiry
An embedded case study is currently underway to explore the framework. This case study of a novel support partnership between a secondary school and one of its primary feeder schools in England is embedded because it examines the interaction between schools as conditioned by institutionalised patterns of interaction within each school. The pair was selected on the basis of an initial identification of the approach to curriculum and approach to values in the lead school, as defined above. Worked examples in the full paper will be drawn from the case study to illustrate the framework.

The framework permits the exploration of the following research questions in relation to developing professional knowledge within the lead school and within the supported school as well as in the interactions between the two schools.

1) What forms of authority are recognized in different modalities of institutional practice?
   a) How have forms of authority evolved?
   b) How are recognized forms of authority understood by participants?
   c) What are the contradictions that exist within and across different settings with respect to the recognition of different forms of authority?

2) How is authority realised in different modalities of institutional practice?

3) What role does the realisation of forms of authority have in professional learning in different modalities?

4. Initial findings and contribution to knowledge
The framework aims to enable systematic understanding of how the settings of change shape possibilities of individual and organisational learning. Such an understanding is vital as the state-sponsored impetus for change focuses increasingly on the intensification of power through school-to-school networks. Preliminary analysis of case study data has shown the descriptive validity of the framework in portraying systematically varying relationships amongst patterns of authority, dimensions of knowledge-building and institutional modalities within schools. This theoretical lens
also holds the promise of tracing institutional hybridity—patterns of positive or negative cross-pollination that may or may not occur due to interactions between schools. Elaboration of the framework contributes to the development of knowledge around institutional change and learning, broadly, and learning in and through school-to-school support networks, in particular.

5. References


292. When engineering becomes educating: Cultural change in a globalizing company

Hanna Toiviainen

The implications of globalization for work are contradictory and controversial and, at best, only partially understood (Held & McGrew, 2007; Engeström, 2006). This article takes the perspective of specialist workers in an established company, senior design engineers in transformation from localized to globally dispersed work. It is argued that the interaction of these experts with the “global” newcomers involves an educational aspect that intervenes in the customary engineering work. “Educating” refers to actions beyond formal corporate training of professional skills to include wider understanding of the cultural conditions of learning. This is in line with the notion of global engineering competencies that engineering educators should nowadays be aware of (Allan & Chisholm, 2008).

In the cultural-historical frame of reference, people and communities in the face of change draw on cultural resources available to deal with a new situation (Vygotsky, 1978; Cole, 1996). These resources and means are diverse and historically layered contributing to the heterogeneity and multivoicedness of perspectives and practices of human communities. To analyze the variety, two sources are useful: the cultural history of the activity in question and the theory history of the knowledge base that orientates the activity. When engineers make sense of the educational aspect of the globalizing work, they do not only analyze the changing situation, but also import their conceptions of what education means in a given context. The fabric of these conceptions is drawn from the historically evolved design engineering practices of the company intertwined with culturally shared ideas and theories of education and learning. The first set of questions explores the conceptions of educating in engineering:

How do expert engineers conceptualize cross-cultural education in the cultural change from local to global design engineering? What cultural resources mediate these conceptions?

Based on our long-term research partnership with the company, we have had an opportunity to follow one of the first customer projects using distributed design engineering in a larger scale. The knowledge of the experiences and problem solving during the project may be used to enhance learning, was the motivating idea shared by the practitioners and researchers. How is the engineering-educating question related to this and why did we researchers pay attention to the educational aspect of work?

First of all, adopting a cultural-historical approach to learning makes one to look for a developmental potential, the zone of proximal development (Vygotsky, 1978) of activity. This concept, originally associated with child development, is applicable to collective activity systems,
in which the potential for development and learning is interpreted dialectically by analyzing developmental contradictions and manifest tensions of activity (Engeström, 1987). The question of cross-cultural education as an object of debate in the engineering community was relevant in this frame of reference. It is my hypothesis that the integration of educational dimension in cross-cultural design engineering lies at the zone of proximal development of the experts’ activity. This means that solving this dilemma represents a learning challenge, and, whatever the solution will be, it envisions the future development and even the continuity of work. The second set of questions focuses on the debate on cross-cultural education:

How do different interpretations related to cross-cultural education collide? What alternative visions do they open up for the zone of proximal development of networked engineering?

The first two sets of questions address the project team in headquarters in Finland whose task was to coordinate the networked design project in the leadership of the project manager. What is also needed is the perspective of the engineering office in China. Typical for the company’s culture, the organization of the Chinese subsidiary is based on a strong local presence of Finnish expatriates, the head of the office and two other senior designers in charge of the project activity. Their role is central in training the Chinese designers to manage the specific requirements of the mechanical engineering design for the company’s products. One of the senior experts was the head of the customer project focused, which meant that daily-based communication with the project team in headquarters belonged to his work.

During our visit to the office in China the expatriate senior designers explained about their way of working with local designers. There was an educational tone, which actually raised my interest in the topic.

A: My work day consists of eight hours teaching and after that come my own tasks. I may have read mails in the morning before these guys come to work (--) and after that, I do my own job on the side, I communicate with Finland and guide these. When they go to lunch or home, then I start the jobs I thought of in the morning. And then I am here until ten at night.

Q: Sounds a little bit over loaded?

A: Let’s say, yes, but it is also in a certain sense quite fun and interesting. This is terribly heavy, the Finns cannot imagine that. But then on the other hand, you see their learning curve. It is really interesting.

During the project, their approach was gradually more and more supported by networking practices developed in collaboration with headquarters. Research literature provides evidence on the importance of boundary-crossing for organizational renewal and learning (Carlile, 2004; Kerosuo & Engeström, 2003). I wanted to analyze whether the solutions developed through cross-cultural
boundary crossing and local practices might provide even partial answers to the dilemmas of education and of the zone of proximal development of networked engineering. Yet another perspective was brought into the analysis, namely, that of a young newcomer design engineer from the Chinese office. The third set of questions analyses the implementation of cross-cultural education in engineering:

How is cross-cultural education implemented in the globally distributed design project? What kind of visions do the educational solutions open up for the zone of proximal development of networked design engineering?

The paper describes the context of the study, the distributed design engineering project of the company. It is followed by the research setting, terminology and methods based on cultural historical activity theory (CHAT; Chaiklin et al., 1999). The use of ethnography, its possibilities and limitations, is discussed (Kunda, 2006; Vinck, 2003; Wittel, 2000) and ethnography for learning interventions is suggested. In the next two sections, the framework for the conceptions of education in engineering is elaborated on. First part examines the cultural history of the company’s engineering expertise. Second part takes up culturally shared theories of learning as a resource for conceptualizing educating in engineering. The analysis part is shared in three according to the research questions. Conclusions summarize the findings concerning the hypothesis of the zone of proximal development and discuss the prospects of learning interventions for supporting the cross-cultural expert engineering.

References
Introduction

Cultural processes are no longer limited to specific geographic locations (Appadurai, 1996). Young people, in particular, move across social and national boundaries and are living in "transnational connections" (Hannerz, 1996). An example is the emergence of social media that facilitates a situation where new ‘participation arenas’ becomes available for young people (Jenkins, 2006). In the context of educational research, an interesting question to pose is what happens when social networking sites enters the classroom? In this paper, we provide an ethnographic study of students (13-14 year olds) in a multi-ethnic community in Oslo who are participants in a social networking site called Space2cre8 (S28) (www.space2cre8.com). This site is a place where students from India, USA, South-Africa and Norway are given the opportunity to collaborate and share digital artifacts and build knowledge together in an online environment. There is a lack of research on how multicultural youth are using social media and how this kind of technology influence multicultural youth’s identity development and learning in school settings. In this paper we raise the following research question: How might social networking sites work as arenas for negotiating cultural identity in the classroom?

Theoretical framework

To explore this research question we draw on sociocultural and dialogical perspectives on learning, identity and meaning-making (Holland, Lachicotte, Skinner, & Cain, 1998; Linell, 2009). The interrelationship between learning and identity has been emphasized by several scholars within this field of research (Gee, 1999; Lemke, 1990; Wortham, 2006). For the purpose of the analysis presented in this paper we foreground the concept of identity, as worked out by Holland et al (1998). When dealing with students learning in multicultural educational settings, the notion of cultural identity is often foregrounded. An often used approach to cultural identity is to emphasize national belonging and ethnicity as dominating categories for identification (Banks & Banks, 2005; Hall, 1959). Holland et al (1998), on the other hand, promote a more complex situated perspective on learning and identity advocating that a person can be composed of many often incoherent self-understandings and changeable identities embedded in the situated social context. From their point of view identity is an ongoing and continuous process taking place in the individual’s everyday
life—situated within specific historical, cultural and social worlds—that is, figured worlds. In this perspective, identity is not bound by pre-given categories but are seen more as negotiated and socially produced in situ. Also, all resources available for a person is seen as important in his or her cultural identity work.

Context
We have studied one class of 8. grade students at a lower secondary school during one academic year. The school is located in a suburban area of the Eastern part of Oslo with approximately 8000 inhabitants. In this district there are less people with a university degree than in any other parts of the city, with the lowest gross income. This area also has the highest percentage of non-western immigrants in the municipality. More than 40% of those living in the area are under 19 years old. The school consists of both lower and upper secondary levels with students in the age range between 13 and 19. The two levels at the school are placed in two different buildings, next to each other, connected by an area that consists of a skateboard park, a volleyball court and a basketball court. Of a total of 29 students (13-14 years old), about 50 percent are language minority students. There are about 50-50 boys and girls. Most of the students have been growing up in Norway, but have parents that have been raised in countries like Tunisia, Pakistan, Kurdistan, Albania, Somalia, Vietnam, Korea, Iraq, China, Poland and Norway. Thus, the class is culturally complex in its composition. The class has access to a computer room, but usually they use laptops which they share with three other classes. The Norwegian site is the only site in the overall international project where S28 takes part in the formal school curriculum, whilst the other sites are working with S28 in afterschool or extra school program.

Methods
To scrutinize the research question we have applied a qualitative case study. This study is inspired by ethnographic methodology (Heath & Street, 2008; Holland, et al., 1998), and video research in educational settings (Derry et al., 2010; Goldman, Pea, Barron, & Derry, 2007). We have videotaped students when working on different activities related to the project. Individual interviews and group interviews have been carried out, both in relation to map out more general question concerning media consuming and producing, but also in relation to the different activities at school. In addition we have been writing field notes of each session during the whole year. And of course, the different digital artifacts that have been produced—digital stories, movies (both made by the students but also downloaded from sites like YouTube), chat-sequences, blogs, pictures that students have taken themselves etc—makes up a crucial part of the total body of data.
Findings

Referring to our research question we can draw out three main findings in this paper. The first finding is of methodological significance, and is of importance for further research on social media and learning in school. S28 emerges as an artifact where offline and online interactions and activities are generated. To understand how students learn when using social networking sites in educational settings, we have to study how students use them in situ, in-between online and offline activities. It is simply not enough to solely study profiles, or carry out surveys, we have to study situations where such technologies are used and made meaningful by students. Second, a social networking site like S28 becomes an important resource for reflecting upon cultural identities among students in a classroom setting. This is done by using and producing different multimodal texts, like the profiles and content uploaded to this profile and so forth. Also, this is done by relating to the other students, both how they present themselves to the ‘others’ and their conceptions of who the others are, which reflect back on themselves in the way they draw on similar references in popular culture, but also how they are different. Third, social networking sites like S28 represent alternative and powerful spaces for learning in schools in the way they engage students in processes of meaning-making and production of figured worlds. Also, this is very much a collective task in the way students negotiate about different types of knowledge within a school frame and learner identities, online and offline. When working with these semiotic resources the students are involved in both academic and non-academic knowledge production playing out various resources from different figured worlds creating new worlds and new meanings.

This study has great implications for educational research. How learning and identity work is interconnected is an important part of studying the role of using new technology in educational settings in general. Especially in the light of societies becoming more multicultural and where young people use new media to reflect on their own cultural identities. School based learning has obvious challenges in relating to increased multicultural ‘voices’ in the classroom and the use of new digital technologies. The use of social media such as S28 point us in the direction of how we might engage learners in ways that builds on their cultural identities, and which represent competencies of importance for the 21st Century.

References


Design-based research (DBR) has gained momentum during the last 10 years. It differs from other research strategies by being concerned with “what could be” or “what should be” and not with “what is” (Schwartz et al., 2010). Another characteristic of DBR is to take experimentation out of the laboratory and into real world contexts. Usually this means classrooms (Kelly et al., 2010), but an increasing number of studies have been done in out-of-school environments (Reiser & Dempsey, 2007). However design based research with its arsenal of developmental methods, tools and research models still has educational institutions as its habitat: A more or less given curriculum, lessons, classes, exercises, homework, teachers, students and so on.

The aim of this paper is to outline a framework for educational design-based research in working life that is intended to improve the fit between research methodologies and the study of design activities in working life settings. As pointed out by leading scholars, design based research in education is an emerging paradigm that will not make any scientific breakthrough unless it put more effort in developing a credible and consistent methodologogical basis (Spector, 2009). We agree and want to add that such an endeavour should include instrumental goals that make this approach a viable one in out-of-school contexts.

In order to identify similarities and differences among design based research carried out in educational and working life settings, we will make a short review of the research literature. Our perspective with this review is towards methodological and not substantial issues. A summary and a theoretical conceptualization of these “findings” will be validated against three cases of design-based research carried out in Norwegian companies. They vary in design techniques, researcher-user-developer collaboration and domains of expertise (graphical design, accounting, and software engineering), but the projects all shared an common notion in research strategies, analytical frameworks and methods that was loosely grounded in socio-cultural theory and activity theory. Thus we need to address another issue that is often debated in the literature on design-based research – the role of theory and theory development.

Design-based research (DBR) is here used as a collective term that includes “design experiments” (Brown, 1992), “educational design research” (van Akker et al., 2006), and “developmental research” (Richey, Klein & Nelson, 2003). Even if there are nuances between these approaches, they share a common tool box and philosophy on design (Wang & Hannafin, 2005): Theory-driven, experimentation through iterative cycles, design of real-life learning environments, multiple research methods, collaboration between practitioners and researchers, and context-sensitive
theorizing.

Compared with the large number of design-based studies in educational setting, the few examples from working life outside schools are quite diverse reflecting a contextual complexity along several dimensions, such as contrasting learning environments, integration of work and learning richness of resources, multiplicity of roles, co-construction of learning goals, general conceptions of learning and the adoption of design concepts from systems development (Mørch, Engen & Åsand, 2004).

We will use the overview above as a template onto which we add observations and interpretations from our three cases of design-based research in Norwegian companies conducted over a period of 10 years. The idea is to generalize the “local instructional theories” (Gravemeijer & Cobb, 2006) from each setting by way of the “constant comparative method” (Corbin & Strauss, 1998). Both primary data, secondary data and theoretical concepts are treated as input and “processed” in our analysis.

The three projects that provide the empirical material for our discussion have been published before, but the current reconceptualization in new: NEMLIG-project from 1999 to 2003 and involving a number of SMEs in the graphics industry sector (Lahn, 2004), the LAP-project, from 2002 to 2005 involving an accounting firm and a chain of petrol stations (Mørch et al., 2006) and the KIKK case in KP-Lab project, from 2006 to 2008, which involved a software company (Mørch et al., 2008). This sample of sites and domains for competence development and technology-enhanced learning was not selected according to any apriori criteria. Rather, the selection criteria is the result of a retrospective analysis.

In our cases the practice of design researchers was mainly in accordance with general models and methods that are described in the literature on educational design research (van den Akker et al., 2006), participatory design (Mørch, Engen & Åsand, 2004), and system design research. These models and methods provide technique for iterative design, multi-disciplinary collaboration, user-involvement, flexible use of design tools, user participation in the creation of artifacts, and an overall orientation towards construction. However when comparing the range of sites, competence domains and design objectives (educational innovation and product development) our expectations about some distinctive differences between design research concepts were confirmed. The family of educational approaches were up-front targeted towards using models and tools for identifying not only what is to be learned but also about how learning goes about (learning trajectories). In our examples these were task analysis, visualization of trends, delphi-techniques, scenario-based design and the codification of learning histories. Techniques for of participatory systems design had a clearer focus on down-stream activities that also enabled end-users to modify and adapt (software) products to changing contexts – like models and tools for tailoring (Mørch & Mehandijev, 2000).
Based on these observations and empirical findings we raise questions about the concept of end-users and sustainable development in educational design and contrasting objectives among design researchers (process, utility, or theory development). The pros and cons of converging the different research strategies are discussed and concluded in an outline of elements that may be part of a meta-theory of design research in this field.

References


Collins ??? He is also a key person to develop DBR. I will send reference in email.


296. Tracing interactional competences in video game-playing activities

Arja Piirainen-Marsh - Liisa Tainio

Introduction

Video and computer games present a new type of globalizing media genre which is increasingly shaping local cultures and societies all over the world. Gaming also forms one of the influential sites where young people encounter English, the global language of youth media, in their everyday life. This paper examines video game playing as a technologically mediated context for interaction and learning through collaborative activity. We examine how game-playing is organized and experienced as a social activity and as an environment for informal learning, in particular the learning of English as a second language.

Background

Empirical research across disciplines suggests that playing computer and video games have an impact on both the cognitive and social aspects of development. While critics condemn games and gaming on the basis of their negative effects (e.g. aggression) (see e.g. Buckingham 2006), enthusiasts emphasize their benefits for developing new kinds of learning environments, even calling for new theories of learning appropriate to the age of technology (e.g. Shaffer et al. 2005). Recent studies in psychology show that extended experience of playing computer games shapes attention processes and develops certain skills (e.g. the ability to selectively direct attention to relevant information, switching between different options) (Green & Bavelier 2003, Bialystok 2006). Studies of social aspects of gaming, on the other hand, argue that game-playing offers new opportunities for participation and collaborative activity (Schott and Kambouri 2006; Bennerstedt 2008). Steinkuehler (2006), for example, demonstrates how players engaged in online gaming draw on the material and interactional structures of the gaming activity when guiding novice players into the practices of gaming, socialising them to the practices of both virtual communities and real life affinity groups which function as a major mechanism of enculturation. Studies of gaming interactions are also beginning to show how young players coordinate their activities between virtual and real social spaces and co-construct social play through a variety of verbal and nonverbal practices (Aarsand & Aronsson 2009, Piirainen-Marsh & Tainio 2009; Keating and Sunakawa 2010). This study contributes to earlier work in this area by analysing how players attend to the game world and co-construct their understanding and experience of the unfolding scenes and events by drawing on two available languages, the sequential structures of talk and embodied activity.

Theoretical framework

This study draws from sociocultural and sociointeractional approaches to learning where learning is
understood to be embedded in and configured through the social practices that the learner engages in (Lave & Wenger, 1991; Mondada and Pekarek 2004; Kasper 2009). This approach is grounded in recent theorizing on human cognition, action and learning as distributed, embodied and contextually situated processes (Goodwin, C., 2000, 2003; Tomasello 2003; Lantolf and Thorne, 2006). Within this framework, we adopt a microsocial perspective which approaches learning as an interactional process that takes place at the intersubjective space between participants. Building on recent research applying conversation analytic methods to the study of various learning environments (e.g. Firth and Wagner 2007, Hellerman 2008), our focus is on learning-in-action and competences-in-action: we examine the highly context-sensitive and interactively constructed competences through which participants jointly accomplish and organize the activities while engaging in joint gameplaying. As observed in previous studies in the field, (e.g. Kasper 2009), the same organizations that enable the building of intersubjectivity and orderly interaction in specific social activities, also enable learning.

Data and methodology

The empirical data originates from interactions where two teenagers whose first language is Finnish are engaged in playing a console-operated video game produced in English. Although not collected for the purposes of longitudinal study, the recordings, which span over 2 years, allow comparison of practices employed by the same participants at 11 and 13 years of age.

The analytic framework is closely informed by conversation analysis. Ethnomethodological conversation analysis provides a detailed methodology for investigating how participants create social order in and through their interactional practices in a wide variety of contexts. The microanalytic tools of conversation analysis provide the methods for describing the details of verbal and embodied practices employed in the gaming activities investigated. The analysis focuses on the participants’ moment-by-moment orientations to the unfolding interaction and the practices for making sense of unfolding semiotic information afforded by the game.

Analytic aims and findings

The purpose of the analysis is to identify instances where the participants treat the activity as a learning event through orienting to asymmetries of knowledge and through engaging in collaborative activity to negotiate problematic game tasks. In addition we explore how participation in bilingual gaming activity can be seen to promote the development of the participants’ interactional competence over time. In particular, we trace changes in the practices of one participant in collaborative gaming activities, where the players orient to asymmetries of knowledge both in terms of previous experience of game-playing and linguistic expertise. The paper examines how the less experienced player displays his understanding of ongoing events through his responses
to the semiotic resources available through text and voice over dialogue in the game. We describe how the player’s participation in the initial recordings displays orientation to lack of expertise, for instance through questions identifying trouble sources in the images or texts displayed on the screen. Analysis of the later recordings reveals how the player’s participation has changed: the practices employed display orientation to both previous shared experience of game-playing and linguistic expertise developed outside the gaming activity. The player’s interactional competence is manifested for instance through well-timed responses which display increased expertise in both game-playing and linguistic choices in the game’s narrative. The responses reveal a detailed understanding of pragmatic and sociolinguistic features of unfolding game dialogue and include turns which project particular actions or sequences available in the game.

The findings shed light on the specific kinds of resources for participation and learning afforded by gaming activities. The paper discusses the implications of these findings to the study of additional language learning within a social interactional framework. The findings also contribute to previous research on the social organisation and learning potential of games, and the role of games and play and their role in youth culture (e.g. Goodwin, C., M. Goodwin & M. Yaeger-Dror 2002).

References


Introduction

One recent approach to learning called ‘knowledge creation’ (Paavola & Hakkarainen, 2005) depicts learning as a collaborative activity aimed at creating new knowledge, through the creation and development of shared knowledge objects (e.g., research reports, instructional material, scientific models, etc.). Hence, collaboration here does not serve only individual learning or social interaction, but is organized around common knowledge objects whose creation and development defines their purpose. Van Aalst (2009) maintains that this perspective goes beyond objectivist stances that separate the knower and what is known, treating knowledge as residing in the individual mind. Rather than residing inside individual minds, knowledge is materialized in cultural objects that mediate learning and understanding, and knowing is mediated by the (knowledge) objects created and shared by a community.

Knowledge objects play an important role in human interactions, as they structure interaction, generate problems, and provide resources for solving difficulties that may arise (Jordan & Henderson, 1995). Stahl (2006) also emphasizes the role of the object within groups as a motive for interacting, as a goal of work, or as an outcome to reach. However, in spite of the acknowledged role of knowledge objects, not much is known about how they emerge from the interactions taking place and about the way these objects develop and change over time. When objects are taken into consideration the emphasis has been placed mostly on the role of knowledge objects rather than on their nature (Ewenstein & White, 2009). Traditionally, a distinction between objects and artefacts has been made, with objects referring to the objective or purpose of activity, and artefacts to the tools which mediate the achievement of these objectives (Vygotsky, 1978). Objects are referred to as a collection of artefacts individuals work with, e.g., create, measure, and manipulate. To avoid confusion between the terms object and artefact, we refer here solely to objects, given the synonymous use of both terms in the literature (see Paavola & Hakkarainen, 2005; Carlile, 2002; Eckert & Boujut, 2003).

This paper attempts to examine the mechanisms of collaborative creation and the evolution of knowledge objects following their trajectory in time, with an emphasis on the emergence of these knowledge objects from interactions. Our assumption is that particular types of interactions, namely productive interactions, lead to the emergence and development of knowledge objects worked upon.
by the participating groups.

**Settings and method**

This study was conducted in an University of Applied Sciences and Teacher Education in the Netherlands. This university prepares teachers for lower secondary education. The curriculum is based on Professional Situations (PS), which stimulate students to mobilize knowledge and skills during projects in authentic work environments. Three different PS’s were randomly selected to be part of the research study. Throughout the entire project period (September 2009 to July 2010), a group of 8 teachers and 73 mixed-age students participated in the study.

In this project, we actively engaged both teachers and students in object-oriented processes. The teachers and 2 researchers participated regularly in project meetings, designing and developing instruments for coaching. Groups of students were required to design, develop, and report on authentic knowledge objects (didactic materials, support material, guidelines and manuals, etc.). Various scaffolds were provided, such as workshops, templates for work plans, and tool training sessions. Student groups had coaching hour every second week. Collaboration was supported by Knowledge Practices Environment (KPE) (see www.knowledgepractices.info), wherein individual and collective shared spaces can be created. Each shared space encompasses a common virtual workplace, with tools specifically provided to support object-bound collaboration such as document versioning and wiki.

**Data collection and analytic approach**

We collected a rich set of data, categorized as: a) interaction data; b) knowledge objects, both produced in KPE or during fieldwork; c) reflection data. This contribution discusses data drawing primarily upon the transcribed group discussions, group products, meeting notes and researcher’s notes. Data were chronologically ordered and categorized, and the analyzed recordings were transcribed verbatim.

The qualitative analysis comprised three discrete processes. In a first phase, interaction analysis was applied on the conversational data. A focused examination of the interaction sequences, in the context of the process chronology, was conducted. We focused on analyzing action-relevant episodes (ARE), which are significant events or happenings in the course of activity, that either triggered subsequent actions, or led to a particular development regarding the shared knowledge object. In general, an episode corresponds to a coherent activity segment, demarcated by the learners’ own behavior. The coding scheme employed was developed based on one developed by the authors in a previous study (see Damszę, Kirschner, Andriessen, Erkens & Sins, 2010), refined based on based on a distinction of models of discourse by Van Aalst (2009). Second, to
analyze uptake, i.e. the extent to which the ideas expressed during the action-relevant episodes were included in future versions, we constructed relevant-concepts maps that displayed the main concepts and ideas related to the main topic. These maps served as instruments to identify and display the content of the interactions and of the object versions. Finally, the object was analyzed with regard to the progression of knowledge objects and the elaboration of concepts and ideas throughout the project period. Several readings of the object versions led to the understanding about how concepts and idea change status and conceptual expansions of ideas and concepts identified through concept mapping in the previous step. This analysis was not predetermined but rather emerged inductively through interaction with the data. In addition, an assessment instrument that takes into consideration the aforementioned analytic dimensions was developed together with the teachers, in to approach these products from a normative perspective.

**Results**

The analyzed interactions proved to be of heterogeneous nature. We identified productive interactions that explicitly contributed to the conceptual enrichment and development of the shared knowledge object. The interactive actions that contributed directly to the conceptual development of the knowledge object were labelled as ‘creating shared understanding’ and ‘collaborative generative actions’. However, other types of actions were identified, which had different purposes (e.g., establishing the focus or sharing information). The analyses of the interactions also yielded sets of relevant concepts, considered by the group as more or less relevant for the knowledge objects to be developed and indicated that groups had elaborated strategies in dealing with these concepts. From the perspective of concept and idea elaboration, the findings reveal that elaborations led to the materialization of the group’s shared views and stance. However, the work of expanding these common views took place individually and led to, at times, lower levels of elaboration. Further, analyses of object versions indicated that a gradual expansion of the analyzed concepts was registered. Finally, findings concerning contributions and participation of individual group members to the elaboration process show that individual ideas and textual versions were discussed and commented upon in the group, and plans for action were joint and integration of materials occurred. However, the elaboration of concepts and ideas into the object versions was done individually. The findings indicate that the sections that were discussed within the group and provided with feedback more than once showed a higher degree of elaboration. The latter findings are in line with the assessment of the group products by teachers.
Conclusion

This paper focused on understanding the mechanisms of collaborative creation of knowledge objects, by analyzing interactions of students engaged in an authentic project and by tracing the development process of the knowledge objects they worked on. The study gives an indication on how interactions between learners contribute to object progression and how this process feeds into the collaboration strategies employed. Based on our findings, we contemplate that shared knowledge expressed in objects stimulates collaborative reflection and analysis of limitations in existing practices which may lead to new collaboration strategies.

References


304. Art: A Hybrid Space for an Afterschool Math Program

Jennifer Goldberg

Introduction

This paper addresses the complex connections between learning math and art. Our study documents the efforts of educators to create hybrid, third spaces during an afterschool math program, seeking to help students use math as a tool to better understand and serve their communities. Analysis of data from an after school math program, the Mighty Math Kids Club (MMKC), for upper elementary students is used to explore the social spaces.

At most of the participating elementary schools, teachers follow state standards and a district pacing guide in planning and implementing math lessons: ‘official scripts’. Math outside the school, such as budgeting spending at a local store, can be considered counter-scripts. As these official scripts and counter-scripts intersect in an after-school program, new third spaces (or hybrid spaces) emerge (Gutiérrez, Baquedano-López, & Tejeda, 1999). This alternative space in the out-of-school time program created the potential for authentic interaction and a shift in the social organization of learning mathematics.

Although the intent was for students to connect math with their communities (and social responsibility), students struggled to connect math concepts outside of the school walls (or even their math classroom). In our paper, we will describe how fine arts emerged as a critical hybrid space – allowing students to see (and feel and hear) connections between math and art, thus providing a bridge for students to connect math, art, and community.

Learning Mathematics

Learning mathematics takes place within a socio-cultural setting (Vygotsky, 1978). We cannot understand teaching and learning without taking the classroom community (in this case, the out-of-school time math club), into serious consideration. Furthermore, learning can not merely be reduced to the formation of skills, but embodies a process making it possible to transfer general principles discovered in solving one task leading to a variety of other tasks. This study is guided by the belief that to move toward equity within mathematics education, we must emphasize deeper understandings of mathematics. All students must have accessibility to a wide range of mathematical activities, including problem-solving, not simply performing operations (Rothstein, 2004).

Mathematics and Art

Art has the ability to give depth to other subjects, such as mathematics. Maxine Greene (1995)
eloquently states, “At the heart of what I am asking for in the domains of the teaching of art and aesthetics is a sense of agency, even of power. Painting, literature, theater, film—all can open doors and move persons to transform (150)”. Moreover, the arts can be a conduit to gaining critical thinking skills, an important aspect of mathematics (Gullatt, 2007).

The arts have also been shown to more directly influence students’ understandings of mathematics. For example, there is a connection between music and improved mathematical understanding (Geist & Geist, 2008) and standardized test scores (Kinney, 2008). Research also supports the idea that math can be taught more effectively with the use of multiple arts e.g. drama, music, dance, painting, etc. (Gadanidis, 2008). An additional positive aspect is that the arts can be powerful motivators for non-arts subjects (Smith, 2001).

Afterschool Programs and Social Spaces

Social spaces help us examine differences in involvement, participation, and the learning of students during instructional activities. Learning contexts are hybrid in many ways: there are multiple perspectives, voices, scripts (official and unofficial), and goals. Moreover, conflict, tension, and diversity are intrinsic to learning spaces (Gutiérrez, Baquedano-López, & Tejeda, 1999.)

An out-of-school time context may cultivate a positive attitude toward mathematics and a sense of empowerment through engaging in mathematics (Hull, 2007). The hybridity of the context can transform activities, providing resources for new learning spaces. In this hybrid space, teachers may focus on a normative script (for example, identifying connections between math and art) while students may construct counterscripts. In these unofficial spaces, there is a context where students may explore mathematics in ways that are unlikely to experience in everyday classrooms; thus, the creation of new scripts and spaces in a third space (Gutiérrez, Baquedano-López, & Tejeda, 1999).

The Mighty Math Kids Club: A Case Study

Our case study of an afterschool math program, the Mighty Math Kids Club, illustrates how art became a critical mediating tool for understanding mathematics. Furthermore, participation in art activities became a hybrid, third space allowing students to more clearly make connections between mathematics and the world around them.

The study stems from data collected during an afterschool math club that was implemented in the 2009-2010 academic year. The math club encourages active participation of students, striving for deeper understandings of mathematical concepts, as well as enjoyment of the world of mathematics. Through math explorations and discourse, students explore their local, national, and global communities. Although math was the primary academic subject, the program was interdisciplinary.

Four urban schools in the northeast part of the United States participated in this project. All
participating schools have a culturally diverse population of students, particularly from underrepresented backgrounds. The math clubs were held at each school immediately after school with a total of approximately 150 students participating. Each group of students attended 12-15 times per session, meeting for one hour once a week, with two all day field trips to a university campus.

The out-of-school time context provided flexibility for the content and strategies used to explore communities through mathematical activities. Hands on activities were selected to help students understand communities in our lives with the intent of using mathematics to deepen their understandings. Throughout participation in activities, students were encouraged to communicate, through small group and whole group discussions and written documents. Furthermore, teachers, volunteers, and peers valued students’ thinking to help communicate that they are all members of this mathematical community (Hiebert et. al., 1997).

There were four main components of the research design:
1. Videotaping afterschool math program activities.
2. Design, implement, and improving math club activities based on data analysis.
3. Survey participating students at the beginning and end of the school year.
4. Collaboratively analyze videotape data (and transcriptions) and surveys.

Reflection was integral to the design of this study, as graduate students, instructors, and university faculty collaborated to plan and implement lessons and then to analyze data. The collaboration between educational researchers and teachers was powerful in providing a more complete picture of what was happening in the afterschool math program (Florio and Walsh, 1981).

*Connect-the-Dots: Exploring Math through the Arts*

“I use math at home.”

I use math “to tell time on the clock”.

These examples were typical of results from a survey asking upper elementary students to list ways that they use math in their daily lives. More complex responses, particularly on post-surveys, included, “My parents use math when they paint the walls.” Another wrote, “Companies can see how much money they make to see if they can give to a community.”

As instructors observed the difficulty that students had in making connections beyond the math classroom, they chose to develop art workshops where students would participate in interactive, hands on art activities and reflect on the mathematics involved in these activities. These full-day field trips, Connect-the-Dots: Exploring Math through the Arts, were held at a local university. During the first Connect-the-Dots in December, the students participated in art (stained glass), dance, and music. During the second Connect-the-Dots, in May, workshops included architecture,
music, and theatre; in addition, students from two of the schools walked over to two campus buildings to compare different styles of architecture. The focus was on the Arts with identification and discussions about how math was connected to the art activities.

One change to the second Connect-the-Dots is that instead of the field trip being an isolated event, students attended a pre-session the week before the field trip and a post-session following the fieldtrip. During the post-sessions, students were expected to begin to move beyond connecting math and the arts to using math to understand and advocate for their communities.

**Discussion**

We argue that through the math club, art was a mediating artifact used to address student needs based on their zones of proximal development (ZPDs), the distance between the actual developmental level and the level of potential development (Vygotsky’s, 1978). Broadly conceived, artifacts are tools and symbols (Vygotsky, 1978); mediating artifacts play crucial roles in the formation of human intellectual capacities (Moll, 2000).

The ways teachers organize activity and discourse in their classrooms has a profound effect on how students come to understand mathematics, analyses of activity systems are critical for understanding how classrooms are constructed and then shape students’ access to learning (Gutiérrez, 1994). The out-of-school time context provided flexibility to approach mathematics in different ways and created opportunities to have open discussions about deeper meanings of mathematics; these opportunities are not always possible in classrooms.

Art may be a ‘missing link’ for educator seeking to help students understand mathematics and the world around them. For the Mighty Math Kids Club, art was a mediating tool that bridged math and the community. This study helps to describe the complicated relationship between math, art, and community and to provide researchers with an example of analyzing third spaces.
305. The lesson considered as a cultural-historical formation of the activity of schooling.

Malcolm Reed

The lesson is an enduring cultural and historical event in our conception of schooling—that is, in the evolution and actuality of institutions of teaching and learning. As a prevailing and fairly worldwide construction of the happening of instruction the lesson is therefore a cultural tool. Within the lesson, in sociocultural terms, mediation takes place. For the most part mediation is perceived positively as a process of development, although we recognise that there are educational instances which do not seem harmonious or enriching—for example, a punishment or an expression of boredom or disengagement might signify more contrary representations of mediation and agency. Educational writing sometimes tends to idealise the workings of mediation in cultural procreation. The lesson is tangible in ways that a curriculum or course of instruction is not, such that we may describe a lesson in chronotopic terms, both situated in and structured by time and place. However, the contextual chronological and topological characteristics of lessons are afforded far less attention than their topic and discourse contents or the beneficent claims we make for learning. We make distinctions between active and passive learning, for instance, based on the degree of agency concerned in the activity of mediation. We look for structures within lessons, such as IRF; we consider the opportunities for dialogue in the exchange of teaching and learning. What we seem rarely to do is consider the lesson as a unit of analysis in terms of its proclivities and concerns—the cultural drama it signifies. Intersecting microsystems constitute the dramaturgy of lessons—where social contexts meet and are formed and rebuffed in the events of that lesson.

In the history of English (apologies to speakers of other languages, but this is the language of the culture I am most rooted in and have intellectual access to), we can explore through etymology and literary reference something of the cultural evolution of what a lesson is and does. According to the Oxford English Dictionary (online), the English word ‘lesson’ derives from the Old French ‘leçon’ as a colonial consequence of the Norman conquest. ‘Lecon’ (leçon in modern French) in turn stems from the Latin noun of action ‘lectionem’ rooted in the verb ‘legere’, meaning ‘to read’. So the cultural function of the lesson begins in the act of reading—the transmission of a literacy event. Specifically it means to be audience to someone who reads, usually a member of the clergy, conveying the lesson through that reading. In this sense a lesson represents the activity of the literate to the non-literate or the becoming-literate.

If we consider the topography of this literacy lesson as an activity directed from a pulpit or lectern or dais we can trace a vector of mediation that travels from high to low, a hierarchy of reader-speaker-teacher over a group of listeners who do not necessarily possess the book or text being
read. So this formation of lesson is designed to accommodate and activate mediation of textualised understanding in the absence of individual means of possessing for oneself that text. Such a cultural configuration of tools, absences and agential dispossession underscores the habitual chronotope of educational mediation to this day. Even when texts, technologies and educational artefacts have multiplied in functionality, in most classrooms I visit they are restricted to employment during a set task and not accessible beyond that event and it is notable that person doing most of the speaking and reading is the teacher. We might want therefore to consider how different lessons braid together monologic and dialogic opportunities for activity beyond the level of discourse alone.

However much we encourage and call for instances of hands-on and connected learning through computers and the worldwide web often the same dynamics of engagement, access and agency play within the lesson formation that has continued to exist from antiquity. Texts and symbolised experiences may be mediated through multiple modalities, yet we remain audience to the event—a listener/watcher rather than a maker. The prevalence of these instances constitutes an ennui in which schooling reverts to the rituals of ‘taking it in’ (passivity) or ‘switching off’ (disengagement) or breaking the circumstances of the event (disrupting).

My argument suggests a need to tackle the cultural dimensions and dynamics of the lesson by subjecting it to attention as a unit of analysis of literacy culture. One way in is to employ the concept of ‘disoccupation’:

Every work of art is either an activity of forms occupying a space or it is a space that has been emptied, disoccupied. (Oteiza, 2003, 324)

Oteiza was a sculptor from the Basque country who theorised how what has been hollowed out or disoccupied from a structure represents a deliberate understanding of the role of space in culture—what is disoccupied has an intrahistory. Oteiza considered neolithic structures such as the cromlech as forms in which the design of the absence of structure is crucial. So disoccupation focuses us on the signification of what has been emptied and on the intrahistory of that significant emptiness—what Zinchenko (2007 after Shpet) might suggest is the internal sign of the lesson. In the activity of cultural development what seems not to be present is not necessarily absent. What happens if we consider the lesson in terms of occupation and disoccupation, action and counteraction?


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This contribution illustrates how dialogical and cultural-historical perspectives on speech and thinking can be applied to the psycholinguistics of writing. For this purpose, an approach is sketched, which draws on notions of dialogicality of speech as they were drafted in the Soviet Union in the 1920s and 1930s by scholars like L.P. Jakubinsky, L.S. Vygotsky, M.M. Bakhtin and V.N. Voloshinov. Certain commonalities motivate the choice of these scholars as complementing one another. Their reading reveals a shared deep interest in language, a common concept of language as a dialogic and social activity – even when it is used in other contexts than primarily communicative ones – and the central role all of them assign to language for thinking.

Writing, seen from this theoretical perspective, is closely linked with other speech forms, especially inner dialogue. Since monologue and dialogue (both spoken and written) are without sharp distinction but rather form a continuum, even in monologic and written form utterances are oriented towards a response and evoke a response in others (Jakubinskij 1923/1979). Thus, writing appears as a complex creative-semiotic psycholinguistic process with addressing and addressed tendencies.

However the quality of the other is different from the one in face-to-face dialogue. Writers have to abstract from concrete communication partners and the here-and-now (Vygotsky 1934/1986). Instead they have to create spheres of meaning – “chronotopes” – on their own (Bakhtin 1937-38/1981). This seemingly individual process stays deeply social and dialogic in nature, because every linguistic form employed for that purpose is no “ready-made artefact”, but a used utterance (Voloshinov 1929/1986, p. 77). Since the diversity of positions addressed and responded to in writing lies beyond concrete communication partners, interiorized and generalized others become crucial. Individual writing processes are closely integrated within socio-cultural literate practices and what Jakubinsky (Jakubinskij 1923/1979) as well as Vygotsky (1934/1986) following him call “functional speech forms” and what Bakhtin (1953-54/1986) calls “speech genres”. Writers must relate to “typical” or even normative ways of writing and forming written utterances – following them, struggling with them, opposing them, changing them. As a consequence, the relationship of writing with other forms of speech, especially with inner dialogue, and the close integration of individual writing processes and socio-cultural literate practices are identified as two major theoretical implications for writing.

However, dialogicality and its aspects described above are not only theoretical notions. These
concepts can also be used as starting points for developing a methodological approach to further investigate writing processes empirically. Illustrating such an application, the contribution focuses on a case study of a journalist’s writing activity investigated with the help of auto-confrontation (Clot 2008; Clot et al. 2001; Clot & Faïta). The original method developed in workplace psychology is variegated and applied to the study of a writing episode.

Generation of material for later analysis consists of two stages (cf. Karsten, in prep.). Firstly, an everyday writing sequence, the composition of a reportage, is videotaped in its natural setting, the journalist’s home office. With regard to the psycholinguistic processes involved, the participant turns the observing activity of the researcher towards herself (cf. Clot 2008). Inner dialogue during writing is enriched with an observer-position. Secondly, journalist and researcher co-analyze sequences of the videotaped writing activity. This dialogue vis-à-vis the tape of the writing episode is registered, too. In the interaction, several positions involved in inner dialogue during writing become voiced. Like this, the analysis comprises not only what is visibly done, but also the “volume” of the activity (Vygotsky 1925/1999): what plans and objectives the journalist had, what could have happened, should have happened, usually happens etc. (cf. Clot et al. 2001). As a consequence, the writing process is reconstructed in a way that voices the richness of inner dialogue and the interrelations with literate practices.

The tapes of the writing episode together with transcripts and recordings of the auto-confrontation form the material to be analyzed. Out of a number of possible interests and tools of analysis, this contribution directs its focus upon perspective-taking and positioning acts in writing. The journalist’s statements are searched for the various positions expressed, juxtaposed and scrutinized.

Drawing on research traditions in positioning analysis (van Langenhove & Harré 1999; Harré & van Langenhove 1999) and similar approaches (e.g. Ragatt 2007) in addition to hints from Bakhtin’s and Voloshinov’s literary analyses (e.g. Bakhtin 1929/1984, 1937-38/1981; Voloshinov 1929/1986), positions of various qualities can be identified and classified. They include positions of the writer, the imagined reader and the text (cf. Kellogg 2008), but also go further to include normative and practice-related positions as well as what Bakhtin (1959-61/1986, p. 126) calls the “super-addressee”, an idealized imagined addressee “whose absolutely just responsive understanding is presumed, either in some metaphysical distance or in distant historical time”.

These positions and perspectives voiced during auto-confrontation are set into relation with acts of positioning and perspective-taking that occur in the text as it evolves during writing. Like this, insights can be gained into the multiplicity of positions involved in inner dialogue during writing, and patterns of how they relate to dialogical features of written utterances become visible.
References:


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(Translated and edited by A. Konzulin)

The Construction of Zones of Proximal Development Through Classroom Interaction.

Ian Thompson

As a practising English teacher in a secondary comprehensive school I am fascinated by the unique learning potential opened up by collaborative writing and the roles of teachers and pupils in the creation of meaning that becomes a written text (Barton, 2000; Emig, 1977). I believe that writing is a specific form of cultural activity, through which pupils attempt to communicate meaning, which involves a ‘high level of abstraction’ (Vygotsky, 1986, p.181). In this paper I will explore the mediating role of the teachers in the development of a pupil’s writing abilities. Central to my analysis is the argument that the most powerful forms of learning take place when pupils are working within a Zone of Proximal Development (ZPD) defined by Vygotsky as: 'the distance between a child’s actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers.' (Vygotsky, 1978, p.86)

Vygotsky goes on to describe the ZPD as ‘a tool through which the internal course of development can be understood’ (Vygotsky, 1978, p.87) and argues that ‘the only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening functions’ (Vygotsky, 1986, p.188).

In the context of school learning, Vygotsky contends that a child’s development within a ZPD involves social interaction, dialogue and mediated activity between learners and with their teachers (Vygotsky, 1978, 1986; Vygotsky and Luria, 1994). As Wertsch argues:

Instead of acting in a direct, unmediated way in the social and physical world, our contact with the world is indirect or mediated by signs. This means that understanding the emergence and the definition of higher mental processes must be grounded in the notion of mediation. (Wertsch, 2007, p.178)

Vygotsky distinguishes between the mediating functions of tools that are ‘externally orientated’ and ‘serve as the conductor of human influence on the object of activity’ and signs that are ‘internally orientated’ and ‘aimed at mastering oneself’ (Vygotsky, 1978, p.55). Sociocultural theorists (e.g. John-Steiner and Mahn, 1996; Moll, 1990; Wertsch, 1985) and activity theorists (e.g. Cole, 1996; Engeström, 2001) use the term ‘cultural tool’ to refer to both physical tools (pen, computer) and psychological tools such as language. For example, Wertsch has made the claim that ‘action and mind are fundamentally shaped both by the “cultural tools” and “mediational means” that individuals and groups employ’ (Wertsch, 2002, p.105). Moll summarises the centrality of mediation to learning as follows:
'To put it simply, human beings interact with their world primarily through mediational means; and these mediational means, the use of cultural artefacts, tools and symbols, including language, play crucial roles in the formation of human intellectual capacities.' (Moll, 2000, p.257)

When asking pupils to write it follows therefore that as teachers we should play close attention to both the ZPD of a child and the mediational tools that we provide to help scaffold their learning development. Vygotsky argues that human mental functioning is inherently social because it ‘incorporates socially evolved and socially organised human tools’ (Wertsch and Tulviste, 1992, p.551). This mediated activity is the very essence of learning in the classroom.

The key to understanding development of an individual’s psychological and mental functions lies in analysing the social interaction that the individual is involved in during the learning process: that is, the immediate culture of teaching and learning. Writing in this sense can be seen as socially mediated activity though which a pupil develops the ability to deploy the psychological function of ‘deliberate semantics- the deliberate structuring of the web of meaning’ (Vygotsky, 1986, p.182).

The key moments represented in my data analysis are instances where a secondary school pupil can be observed working in a ZPD with the help of his teacher or peers. These instances chosen for analysis are examples of dialogism where the collaborative element of learning established conditions of equality between pupil and teacher or significant other (Alexander, 2000, 2008; Mercer, 2000; Newman, Griffin and Cole, 1989). I define these examples as critical instances of classroom practice (Tripp, 1993). These moments might involve dialogue, instances of written composition or gestural or positional evidence from video data. The identification of these key moments therefore is a key method of analysis or theoretical sampling of data (Brown and Dowling, 1998) based on the underlying theoretical position that learning is situated and involves mediation and negotiation of meaning.

The data are drawn from video tapes of two consecutive English lessons in 2003 involving the interaction between a fourteen year-old pupil, identified as John, and me as his teacher involved in collaborative writing and then modelling the process to a Year 9 English class. John was a complex and difficult pupil who struggled with both literacy and peer relationships. The lessons were part of a short action research project designed to change my own practice as a Vygotskian teacher. Action research in education is about challenging and changing practice in order to improve the educational experience of pupils (Lomax, 2002; McNiff, 1988; Somekh, 2007). The ZPD is viewed as a reciprocal shared space between the learner, teacher and peers constructed through social interaction in the classroom. Frameworks for analyses of the effect of situated and mediated activity on pupils’ progress through ZPDs are developed from the work of Tharp and Gallimore (1988), Newman, Griffin and Cole (1989) and Wertsch (1991). The computer is considered as a means of
double stimulation (Engeström, 2007).
My argument is that critical incidents can highlight development through a learner’s ZPD and allow teachers to understand the diagnostic evidence that reveals the potential size of a learner’s ZPD. The potential size of a ZPD ‘refers to the extent to which a child can take advantage of collaboration to realise performance beyond what is specified by independent performance and relative to age norms’ (Chaiklin, 2003, p.53).

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The study discussed here is linked to the research conducted in recent years in the field of Developmental Psychology and Education (whose results were presented, among other events, at ISCAR held in Seville in 2005 and San Diego in 2008). Such study has now been reconfigured in a more comprehensive and interdisciplinary discussion. In this process, I have made an effort to contribute to the construction of new possibilities of dialogue between the fields of psychology, education and other fields of knowledge, through the study of diverse perspectives involved in the complex "work of the individual constructing oneself as a subject "(Araujo & Martuccelli, 2010). Based on the cultural-historical psychology (Vygotsky, 1993, 1996) and other theoretical sources (such as the works of Bakhtin, 1992; Halbwachs, 1990; Lowenthal, 1998; Elias, 1994; Dubar, 2006; Bruner and Weisser, 1995; Ricoeur, 1995; and Wertsch, 2002), I have conducted studies about the constitution of subjectivity through the ways in which subjects narrate their own lives.

The interest lies in the dialectical relationships between individual experiences and cultural and collective phenomena, the game between what is singular and what is plural in the constitution of people’s psychological universe, expressed in the complex process of constituting a narrative version of oneself. Viewed from this angle, both the content and the form of autobiographical narratives are of interest, since it is assumed that both dimensions of the phenomenon (what is narrated and how it is narrated) contain important analytical potential for the central issue of identity constitution.

Contemporary authors of humanities in general (of different theoretical affiliations) have increasingly appreciated the issues related to the field of subjectivity, narrative, memory and identity construction. Such interest is identifiable by a significant number of recent publications which have directly or indirectly focused on these issues.

This review allows stating that these themes, burning issues in the contemporary debate, indicate that history, identity, language, and memory are frontier, complex and interrelated themes, which can only be explored with multidisciplinary approaches and new theoretical and methodological resources. Although new data follow different lines, such data do not refute the basic assumptions of the cultural-historical approach, but they have enabled reviewing and updating the postulates of the theoretical framework developed by Vygotsky and his collaborators in the early decades of last century.

In contemporary analyzes the concept of identity has also been thoroughly discussed and deconstructed by several authors in different fields of knowledge (such as Foucault, Dubet,
Bauman, Lipovetsky, Sennett, Melucci and Hall). Those current varied perspectives criticize the idea of a full, cohesive, stable, unified identity: besides being multiple and provisional, identities are continuously constructed along discourses, practices and positions on specific institutional and historic places. Many of these authors argue that in contemporary times the modes of subjectification are strongly fractured and fragmented. Therefore, “identities are subject to radical historicizing and are constantly undergoing change and transformation” (Hall, 2000, p.108).

Psychology has participated in these discussions. Although central and recurrent, this is a difficult to approach and controversial subject, which is not constituted as a cohesive object of study. There is a plurality of approaches, visions, and explanatory theories on the subject. The very notion of the individual varies significantly according to the theoretical approach chosen. Some speak of self, others of dialogical self, others of identity, others of personality or unconscious subject. In this field, numerous questions have not been answered. However, one can find some important contributions in contemporary works, which enable new discoveries about the relationships between psychological development and its cultural markers. Several current works give special emphasis to the role of memory and narrative in the constitution of subjectivities and seek to study the so-called "narrative identity" (Singer, 2004), i.e., how individuals employ narratives to develop and maintain a sense of unity and personal purpose. For these researchers, narratives play a crucial role in the constitution of identities. In much of the European and American psychology, there has been some academic excitement about that theme, verifiable by the growing number of publications, lines of research and scientific meetings (such as the studies of Rosa, Bellelli and Bakhurst, 2000; Middleton and Brown, 2006 and Hermans and Dimaggio, 2007).

The data obtained by the set of current investigations renew and extend the understanding of the relationships between psychological processes and cultural influence, and enable transcending views already established in this field. According to these new trends, development processes must be understood as constituted through the dynamic and ongoing articulation of a great complexity of elements.

The goal of this project has been to investigate the ways in which the set of factors (socio-political context, family universe, education at home and school, intellectual environment, imponderable incidents, significant episodes, type of interpersonal interaction, circle of friends etc) present in the individual trajectories was interpreted and narrated by the subject (who understands them as partially responsible for the construction of subjectivities). Our specific purpose has been to examine memorials to identify the particular way different subjects deal with historical and cultural factors and its impact on the way they narrate their life stories and explain their academic careers and their way of being.
The results of this study allow stating that the prospects offered by autobiographical narratives to current investigations are significant. They make it possible to understand, on the one hand, the role of culture in the configuration of the psychological universe of the subject and, on the other hand, the active and dialectic way the individual internalizes the instruments offered by the cultural universe. Assuming with Vygotsky that it is necessary to study psychological processes as a historical and socially contextualized phenomenon and assuming that development does not follow a linear and predictable route, autobiographical accounts may represent a methodological tool to approach the fragmentary and dynamic character of subjectivity as well as the contradictory and complex moments of its constitution. Through narratives it is also possible to understand not only how individuals interpret and assign meaning to their individual trajectories, but also the plurality of individual pathways within broader processes of history and culture.

While acknowledging that the life of any individual always exceeds the words that speak about it, and that, as a speech genre, every autobiographical narrative aims to establish linearity, coherence and continuity to experiences that are scattered, multifaceted, fragmentary and discontinuous (Dosse, 2009, Bourdieu, 1996), the possibilities opened up for research on human development are related, among other aspects, to the prospect of understanding the socio-historical origin of mental processes and of examining the phenomena in their complexity and singularity. According to the French historian Marc Bloch, "(...) human facts are more complex than any other, because man stands at the extreme edge of nature". (2001, p. 81) For this reason, all he "says or writes, everything he makes, everything he touches can and should inform about him." (2001, p. 79). In this sense, autobiographical narratives may represent a promising alternative to face the difficult task of studying the human condition.

REFERENCE


319. Generational and gender Changes in autobiographical Narratives by University Students

Josè Gonzàlez Monteagudo

RESEARCH OBJECTIVES:

- To explore generational and gender identities of university students through auto/biographical narratives.
- To identify some trends in relation to generational change in Spanish and Andalusian contexts.
- To compare socio-cultural settings and lived experiences through three generations (young people, parents and grandparents).

ESPISTEMOLOGICAL AND THEORETICAL FRAMEWORK.

The recent use of auto/biographical approaches in history, research and teaching has done possible the development of qualitative methodologies that offer new insights on social actors discourses and perspectives from subjective, experiential and engaged dimensions. In the educational field the biographical methodologies have promoted bigger integration between research and training, better knowledge on the complex dynamics of formal and informal learning, and better understanding of the relationships between individual and system, agency and structure, micro and macro levels in relation to groups, institutions and socio-cultural systems (Thompson, 2000; Formenti, 2002; Bronfenbrenner, 1979; González Monteagudo, 2008).

The generational change lived in Spain and Andalusia since the sixties of the past century has been very intense. Modernization, urbanization, and secularization have had strong influences on this generational transformation. Changes on traditional family roles, the progressive equality between women and men, and the higher participation of women in education, work and social life have accompanied and deepened these changes, within the historical context of Franco’s dictatorship (1939) and the democratic period started with the democratic constitution in 1978, after a peaceful transition (Rodrigo & Palacios, 1998).

Biographical research on generations and families is relatively recent. In his research review about this topic Miller (2000) points out three main approaches in the biographical field: realist, neo-positivist and narrative. The book edited by Bertaux & Thompson (2005; original ed. In 1993), pioneer in this field, presented different papers related to generational, family and gender contexts in different countries, using biographical methods. In the Italian context, Formenti (2002) researched the construction of gender identities trough biographical interviews with members of five families, using hermeneutic and constructivist approaches. In France, Lany-Baile (1997) studied the intergenerational transmission from a symbolic and subjective perspective. All these contributions have influenced our approach.
RESEARCH DESIGN AND METHODOLOGY.

Our research is located within the narrative perspective (Miller, 2000) because we are interested in open methods for collecting narratives and in stressing the subjective perspective of the narrators. So the traits of the design are: interpretative, phenomenological, constructivist, symbolic, dialogical, open, inductive and interactionist (González Monteagudo, 2008; Thompson, 2000; Ricoeur, 2000).

The main techniques of this approach are the life history or biographical interview (Atkinson, 1998) and auto/biographical narratives, including individual, family and educational auto/biographies. In this approach the participants have an active role in the research process. This central role of participants has important implications both in epistemology and ethics. The research (or educational) process is more democratic and participative in relation to conventional trends, it breaks the distance between researcher (or educator) and individuals, it promotes a co-interpretation of the results and it recognises to the social actors the property of their own narratives.

The participants in the research have been university students from Andalusia (southern Spain). The technique used to collect biographical data has been the family, genealogical and education autobiography, written by the students, within a broader context of research and teaching activities in order to promote self-learning, reflexivity and collective awareness about identity and historical memory. In the academic year 2008-2009 around 150 students of the first year in the degree of Pedagogy of a public Andalusian university wrote their autobiography, according to guidelines provided by the lecturer. Of these narratives, were selected 20 cases, in relation to depth, thematic diversity and reflexive ability. These 20 cases have been analyzed according to these topics:
- Descriptions about grandparents’ and parents’ generations.
- Comments on socio-cultural, family, gender and educational changes through the generations of parents, grandparents as well as the own students’ generation.
- Lived students’ experiences as well as experiences collected by students from their relatives, about conflicts and generational differences (values, life styles, rules of socialization, affective and family relationships, peer groups, authority and leadership).
- Students’ experiences and appraisals on changes regarding gender roles.

The students’ narratives include information about family genealogical trees, places of birth and residence of the relatives, workplaces, values, religious beliefs, political ideologies, economic situations, education and training, family development, transitions and significant turning points. The data provided by the students stem from photographs, videos, written documents, personal journals, letters, family archives, and short interviews done to siblings, parents, grandparents and
other relatives. The students’ generation is focused on present, with important and permanent processes of transition and crisis; it is centred on new technologies and on interpersonal relationships; and has had good educational opportunities and a relatively good standard of living. The generation of grandparents has been more stable and conservative, with strong differences regarding gender, scarcity and economic difficulties, and low educational opportunities. Taking into account the deep social change in the Spanish recent contemporary history, it is not surprising that these two generations have important differences. The generational gap is very impressive, and partially it is explained by the specific and contrasting historical moments lived by grandparents when they were young (the Spanish Civil War and the dictatorship) and the new students’ generation, which has been living the democratic period of the last two decades, with better standard of living and educational opportunities.

IMPLICATIONS, INNOVATIVE VALUE AND CONCLUSIONS.

The auto/biographical narratives have implications in relation to research and teaching. These narratives make possible new ways of rapprochement to historical, social and cultural themes from a subjective and experiential perspective, stressing the agentivity of social actors. Also these narratives help the production and appropriation of knowledge, promote learning regarding techniques of qualitative research, and allow the use of disciplinary knowledge in relation to social and personal issues linked to the everyday life of the participants.

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323. Spinoza in Critical Collaborative Research: Enhancing the Activity Theory in a Monist Teacher Education Program

Valdite Fuga - Maria Cristina Damianovic

This research has got novelty and innovative value because it is in inside the Applied Linguistics (LA) (Moita Lopes, 2009) area and aims at answering the research question of how important the spinozian monism concept and the marxist thinking are in the Critical Collaborative Research (PCCOL) (Magalhães 2009). The investigation was designed as methodological theoretical basis for the researches developed by LACE, a Brazilian Research group dedicated to studying Language and Activity in the School Context.

It is appropriate to the ISCAR community because the theoretical/practical implications will explore the themes schooling and instruction, in teacher training, here understood as PCCol, which means the activity of education to develop research based on the Theory of Social Cultural Historical Activity (Vigotsky, 1934), in such a way to incentive a discussion on the motives in relation to i) the understanding of the necessities of the participants, ii) the negotiated collective construction of the object of the activity in focus, iv) the reasons why the choices are made; v) the rules which organize the specific contexts in focus and, and vi) the roles of the participants in the division of work. In the Applied Linguistics area, PCCol is a way to question the thinking and the acting and to create a lócus in which the participants learn how to organize the language to critically look, understand and analyze the questions which they desire to transform (Liberali e Magalhães 2009).

PCCol enhances the cultural and the activity approach for the present and future generation development in the teacher education era in a global world.

Results reveal that in this context, language is a constituent of the consciousness of each human being and essential in the human activity (Liberali e Magalhães 2009), which converges to the classroom with the objective to construct the participation in the permanent reinvention of the world (Moita Lopes 2006), producing responsive knowledge (Bakhtin/ Volochinov 1929) towards the human social life. This means the ordinary social contact in a specific research area triggers the connection among participants, cheering them up and stimulating them (Marx 1890). This process empowers each one’s capacity to act, generating better results than the outcomes expected from individuals working by themselves. Marx (1890) highlights the importance of the collective work to free the worker from the limits of his individuality and to develops the capacity of the species.

This research will also share other results such as the ones related to the fact that when developing teacher education programs based on PCCol, teachers and researchers go for a common objective which is centered in the transformation of the social, cultural, ethical and political contexts of
acting. The philosophical agenda of Spinoza validates the notion of the non-separability when explaining that at no moment, nothing can be separated from its relation to the world. The monist view is justified in the critical, collaborative research because the unit is always a form of realization of a totality, which means intervention in the part, intervenes in the total. The human being is part of a totality, that is the reason why there should be findings of the meaningful connection among the parts and the whole (Vygotsky 1934). Vygotsky highlights the importance of collaboration in the constitution process and in the human learning which presupposes a social nature.

The central basis is in the idea that the superior mental functions are constructed in a social-historical way by the means of language. The meanings are reproduced and appropriated in the interactive process, in the cooperation of consciousness (Vygotsky 1934). In this encounter of consciousness, the ZPD allows the perception of the self and of becoming (Holzman, 2004), which means, to be in front of ourselves, changing totalities, constructing meanings, which requires doing more than we are able to (Newman & Holzman 1993). The desire to become develops by means of meeting other individuals, in reciprocal actions, which imply a revolutionary activity connect to making history (Marx, 1890). In the PCCol there are no isolated acts in the consciousness. There is always a co-consciousness wove by the relationships which men establish among themselves in the social environment. The consciousness of the subject is done in establishing relationships among men, in the collective dimension of collaborating. The subject’s consciousness is made in the established relationships among men, in the collective dimension of collaborating, which evolves the fact of the social, and socially-historically constituted voices, present in the interactions (Bakhtin & Volochinov 1929).

In the PCCol this is an important fact once the actions of the individuals can be motivated and produced from the action of the others. Everyone is, in a collaborative way, in the negotiation of the production of new meanings (Magalhães 2009). The cooperation among consciousness highlights the action of the other in the action of the self emphasizing collaboration as a space of co-construction of knowledge.

PCCol understands co-construction as a space which is organized by contradictory, conflictuous and dialectical enunciations (Liberali & Magalhães 2009). In this way there is the necessity to create instruments so everyone can look to the totalities of the own actions and of the others in and by the language. It is essential to understand the necessities of the private contexts of action, as well as the history and culture which base the senses of being a teacher or a researcher. Language is transforming when making the constitution of critical-collaborative contexts possible in a process-and-product way. In PCCol it is essential there is a debate about the concepts of senses and
meanings, as a continuous process of questioning and of shared production generated by contradictions, tensions in the activity of pointing out the necessities, objectives, choices, comprehensions of the practice and theories learnt. The methodological question is centralized in offering in school contexts evaluation and production which are understood as being an enunciative continuous process to reveal senses, clarify doubts, propose themes and discussions, evaluate, question the self and the others, as well as look for theories which support practices and roles in the constitution of the involved ones.

Also, it is necessary to analyze the argumentative organization of language (Liberali 2009) by means of the analysis of the shifts in the participations of everyone: assertive, types of questions, silences, retake of speech, support which reveal interest and consideration for what is being put or suggested. It requires questioning with a focus on contradictions to deepening aspects related to theoretical-practical questions which allow new comprehensions inside the internally persuasive discourse (Bakhtin 1934-35), as opposed to the the authoritarian discourse (Liberali 2009).

In PCCol the discussion of the problem investigated requires the creation of two categories: the linguistic-discursive and the interpretative. The linguistic sources of the subject are seen in the possibilities offered by language and organized in discursive genres (Bakhtin 1979). The interpretative category, there is a recall of the theoretical support which becomes a compass to the interpretation. The reflection upon the language can be amplified from the dialogue among the linguistic-discursive and interpretative categories giving a possibility to identify discursive problems, communicative conflicts, among others, not with the prescriptive objective, but to think them over, to understand them to contribute in the process of the creation of knowledge.

The methodological choices at PCCol aim at the creation of a revolutionary práxis (Marx e Engels 1883) to the organization and conduction of researches in educational contexts that allow practices in which the method is simultaneously pré-requisite and product, the instrument-and-result. This means the object of the activity of teacher education are aimed at the critical understanding of senses and meanings routinized and crystalized (Magalhães e Liberali, 2009). In PCCol the truths are read as social productions which emerge from the confront among distinct views of the world in a historically located situation, therefore, open to alterity (Bakhtin 1934). In this way, it is possible to have a continuous movement of thinking of the whole by means of intervention and creation of contexts for the development of totalities in such a way to give the participants in the research a possibility to learn and reorganize themselves by means of the critical-collaborative-collective participation (Liberali e Magalhães 2009). At last, PCCol is a theoretical-practical necessity to organize and conduct researches which aim at creating contexts to produce a free will to act (Magalhães e Liberali 2009).
Cultural-historical theory can loosely be interpreted as challenging the traditions of developmental psychology in which a universal mode of human consciousness is asserted, and which, proceeding from the Kantian position, have postulated a form of cognition that is essentially the same for all humans regardless of cultural or linguistic background. In educational discourse, cultural-historical theory has been increasingly adopted as a way of fostering new approaches to curriculum and assessment that enable children and families from migrant and marginalised backgrounds to participate in lessons in ways that are not so easily embraced using frameworks based on the premises of Piagetian developmental psychology. In providing such opportunities for educators and families and children, cultural-historical theory can be interpreted as placing emphasis on the social situation in which children find themselves, and enabling educators to attend to specific cultural and environmental factors which give effect to learning and through which children's responses may be properly interpreted (Fleer 2010; Bozhovich 2009).

This emphasis has a degree of commensurability with other theories that similarly challenge the educational tradition in which knowing is analysed as a cognitive process, largely detached from environmental factors. For example, Luce Irigaray (2002) has proposed a mode of analysing children's speech which distinguishes the act of speech as language from the utterance as a single factor in a response to a child's imaginary and corporeal context. Similarly, Julia Kristeva (1984) emphasises the varying registers of imaginary and symbolic perception through which children express a response to their situation. These alternative theories comment specifically on the importance of including the child's body as a corporeal factor, with implications for the way in which the child understands and responds to its context.

The difference between cultural-historical and postmodern theories in relation to this matter is clearest when examining their ontological positions. Both Irigaray and Kristeva are informed to varying degrees by the work of Martin Heidegger, which takes a historical approach to the Western dialectic form of logic and the epistemological foundations it provides for Enlightenment theory. Essentially, Heidegger provides these writers with a basis to query the subject-object relation as a dominant mode of response to reality. Like Marx and some of his contemporaries, Heidegger attends to the elevation of the judaeo-christian deity as a model for subjectivity, and addresses the effects of unconsciously treating logic as a kind of useful "law" for the unfolding of consciousness, or as a means of explaining or rationalising history. The link to Marx is therefore a partial basis for suggesting an affinity between Vygotsky and the postmodern theorists in question, based on this
ontological debate. However much of this ontological theory was not prescient for Vygotsky or for Marxist writers working in the early decades of the Soviet Union.

The more important foundations of the links between Vygotsky and postmodern writers does not arise from attention shared in matters about gender or ontology, but about the problem of analysing the context in which subjectivity is constructed, and the variable factors which contribute to the theorisation of consciousness. In this paper, the author advances a series of common grounds for linking cultural-historical theory and postmodern methods by examining the question of prediscursive experience, and the cultural and historical factors that have tended to promote particular understandings of speech as a primary cause of subjective-identity formation. The relationships between parents and newborn infants, and even the prenatal experience of embryos will be discussed in reference to the notion of the ZPD, so as to enquire about new ways of formulating this Vygotskian concept. The author is interested to canvas a postmodern approach to speech and utterance that may provide new ways of thinking through the concept of proximal development, outside the usual parameters of developmental psychology and empirical methods.
The TV industry as perhaps the most vital and transforming part of the cultural industry is nowadays more than ever based on dialogical meaning construction. Since TV was born the TV production process has made use of multi-expertise, customer-oriented working practices which are very similar to the latest historical form of work, co-configuration. TV work has from the beginning been teamwork (Caldwell 2008). The audience relationship has always been praised to be the most important value for the cultural industry because you have to make the audience interested to buy your products. In the theory of the public sphere there has been a more critical emphasis on understanding the media audience. It has been said that the customer relationship in the mass media has repeatedly turned out to be an empty concept without real and democratic interaction with the audience (Livingstone 2005). But during the years TV has become more and more a social platform for interaction. The amount of different kind of talk shows, discussion programs and interviews has been growing and the guests of those programs are often ordinary people (Ekström, Kroon & Nylund 2006, Livingstone & Lunt 1994).

As a descendant of the outspreading cultural industry and the economy based on meaning-driven brands the new way of working called co-configuration starts now flourish in many new areas of product and service design. According to the typology of historical forms of work co-configuration has been defined as a new, sophisticated multi-expertise way of working based on real co-operation and interaction with the customer. In the developmental work research co-configuration is often seen a very desirable evolution improving the quality of working life. But at the same time there is also an opposite, much more negative progress going on in working life because the knotworking, compulsion to work in temporally built teams, is spreading rapidly as well (Engeström Y. 2008).

In my presentation I am focusing on qualifications needed for collaborative meaning construction in TV work. The TV production process takes advantage of several historical forms of work at the same time. Meaning construction is always somehow based on craft work, but very often the TV production process is organized and the heavy studio equipment is used following working practices originally made for mass production, and it is often far too expensive and time-consuming even to try to change the working environments planned for working on the conveyor belt.

During the last decades the new threat, using flexible workforce without stable production
structures has become the most usual way of organizing work in American TV industry. It has also spread into strong European TV countries with established public media. The new kind of knotworking in TV-work has been broken down long-lasting journalistic cultures and co-operating communities. In Finland we have got a huge selection of small commercial companies making co-productions with the large broadcasting companies. Very often the small partners have to accept tight limitations in co-productions.

My research is a case study following in the specific way the logic of the expansive methodological cycle. I worked with a new kind of production team trying to use open interaction and close teamwork to revise TV production practices in present media landscape. The TV conversations are interesting from the view of the audience, because they are building the public sphere differently. In TV conversations the members of the audience are called into the TV studio to represent the audience (Heritage & Clayman 2002).

I used interactive ethnography to collect work-related talk of working practices based on tacit knowledge. The TV workers are considered as actors also in meaning construction, building in co-operation the object of their work but also the referential object of their talk (Engeström R. 1995). My main theoretical perspective of understanding talk as social action comes from Mihail Bahtin. When researching TV talk show discourse I have also used the concepts from Erving Goffman (1981) and conversation analysis (CA). The participation framework in multi-participant conversations reveals the talk show participants’ relations to each other and to the overhearing audience. The visual team has rich possibilities to use montage when building the visual participation framework.

The data is from a Finnish cultural talk show “The Club T” which is originally designed for digital television. The sending channel was YLE Teema in the Finnish Broadcasting Company, the special Finnish public service channel for culture, education and science. Every episode had one topic and the conversation took 50 minutes. There was a permanent host and three changing guests covering thoroughly the topic. Usually there were three video inserts in one episode. “The Club T” was a co-production made in co-operation between the content team including the producer, the researcher, the script writer, the host from a small commercial production company ”Tarinatalo” and the visual team including the multi camera director, the camera crew, the editor and the studio and the control room from the Finnish Broadcasting Company YLE.
The first part of data is based on work-related talk collected during the production process from the TV director by making stimulated recall interviews (2). As a stimulus I have used the final products, “The Club T” talk shows (4). The second part of data consists of the work-related talk from the meta talk show shown 6th October 2005 at YLE Teema. The television production team made the meta program “Exemplary TV show” to debate the essential features of a program using a form of TV-conversations. The transcript of the 50-minute program was divided into 41 episodes for a diversified discourse analysis. In the analysis I focused both on the content and the turn-taking in the context of institutional talk.

In my data there was quite a lot talk about possible future objects of collaborate work. I found all together four referential objects from the meta talk show. Everybody explained that they want to get rid of rigid old-fashioned institutional conversations, but when talking about how to get more documentary or fact emphasis to the TV talk shows the opinions diverged a lot. Also the new concept of discursive truth was brought up as a desirable result of a good conversation. Considering the media audience the TV-director’s talk by reviewing the videotape was perhaps the most tangible. Behind the control desk the director could see the situation through the eyes of the audience and he was worried about the audiences’ possibilities to follow the conversation.

In my research I also focused on disturbances in interaction. In developmental work research the disturbances in action are considered as places revealing the need for changing the current way of working through expansive learning. According to my results there is a close connection between the macro lever and the micro level of the TV-production. The way the TV-production is organized gives the basic limitations how the TV-conversation is possible to build in the studio and in the control room. By finding the disturbances between the different participation frameworks you can make visible the unfitting working practices mixed reluctantly together during the work history. In disturbance analysis, I also found innovations considered as host’s actions crossing the boundaries of prevailing script of interaction.

In my case study I focused on the circumstances for artistic co-operation between the content and the form. Giving better possibilities for the enrichment of meanings between the content team and the visual team can be an imperative step in a way to real audience-oriented co-configuration in the TV work based on meaning construction. My point for future research is that we have to recognize and develop new methods to coordinate TV work through interaction and combine them with learning when trying to develop new effective tools how to promote, organize and lead creative
work (Küng 2008). In the future e.g. open learning environments reporting transparently workers
dialogical, object-oriented meaning construction can become a possible participatory method to
promote workers’ reflexive and expansive learning (see also Miettinen 2010).

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Children's Participation and Professional Practice - seen in a cultural historical and ritual perspective

Kari Opsahl

Children's Participation and Professional Practice - seen in a cultural historical and ritual perspective.

“Talk with us” is a four year research project focusing on children’s participation in everyday life activities and relations, and on their participation in professional practice related to child welfare and habilitation, carried out in Oslo University College. The aim of the project is to develop professional competence to support children’s participation (www.HiO.no). The project consists of five project parts. In “Being where things actually happen!” the study presented here, an interdisciplinary team is interviewing thirteen years old girls and boys with physical disabilities, their parents and professions involved.

Background
Most disabled children in Norway are attending mainstream schools, this imply an intention of universally designed schools and an intention of inclusiveness (Tøssebro 2006). As the children often is the only disabled pupil in school, friendship is vulnerable.

Aim of Study
The aim of the study has been to explore disabled children’s participation in their daily activities and to find ways of collaboration promoting pupils’ activity and participation.

Participants
The project started in the winter/spring 2009, 12 pupils were recruited from schools in and around Oslo, and in the Spring 2010, a smaller group of pupils were recruited. The children, their parents and professions involved, are interviewed. Children are seen as informants and co-researchers.

Method
All researchers used the Life Mode Interview (Andenæs 1991), in interviewing the children, focusing on everyday life activities. The parents and professions involved were also interviewed regarding daily activities at home, in school and other institutions.

In analyzing the text, focus has been on the voice of the children, thematic analysis and the relation to theory and the observations from schools and homes.

Theory
The study is underpinned by Activity Theory (Leontjev 2002), focusing on the relations between the children and their environment; social, cultural and physical, seeing situations and events as
situated. How homes and schools are designed, how the local school policy is negotiating with the national national school policy, and how the children are learning from each others (Vygotsky) and negotiating friendship.

A ritual is an event, it has its specific form and content, it is always situated. The rituals are predictable and represent structure in our chaotic world, forever changing. As rituals mean different things to us, we behave differently, and we thereby change the rituals.

Descriptions & results

In this study I am focusing on the transition from Primary School to Secondary School in a perspective of van Gennep’s “les Rites de Passage”, as a way of looking at and organizing the world, a profane ritual to catch the transformations,

Rites of separation

The last year in Primary School, is “The Year of The King”. The pupils are challenging the establishment, questioning, arguing and negotiating – practicing citizenship. Some schools try to keep them down, some are opening up, as Martha says, ‘they do have some good points, should be listening to them.’

Separation consists of two processes - both involving professionals, children and parents, and both implying educational and social issues:

Process of Leaving; the schools have created their own rituals how to celebrate this; families are invited, there are speeches and entertainment where pupils participate; doing sketches, singing songs or having Fredric’s wheel chair transformed to the pink car in High School Musical.

Process of Preparing; this implies getting ready in many ways,

Educationally, Choice of school, getting grades, learning support?

Practically, to get in and about as a wheelchair user.

Social, most pupils are given the opportunity to start in the new school with a friend

The spring is full of meetings to inform all involved; children, their parents and professionals, to meet and negotiate. Some schools arrange a party.

The pupils express that they are looking forward to to start in Secondary School. The teachers say “they are ready now..” As stakeholders in this process, it is important for the teachers to hand over a nice year of pupils.

Collaboration school – home: ‘It is important’, George says, he is a teacher; ‘to be ahead ’ which means to send an application a year ahead, as the school needs time to arrange and adapt, especially for wheel chair users. ‘The other thing is to have a principal who acts, gets things going’, he adds.

Leadership is important.

Parents are talking about the importance of informing, keep contact and being open; informing
about the disability.
Collaboration in school; the PR teacher describes exemplary PR sessions; how to include disabled pupils, trying out activities together. Practical and educational adaptations promote activity and participation,
Rites of Transition
None of the pupils had been hanging out with friend during the summer holiday, they spent their vacation with their families. Shopping for school start was done with assistants or mothers.
Rites of Incorporation
After three months in Secondary School, the pupils, parents and professions were interviewed again. Most were pleased with the new school.
The pupils are well aware how important learning is. Not all were happy with their grades, but most were, ‘I like grades! I am doing well, better than the average!
Through negotiation a pupil got his curriculum in German on tape he can listen to, as it is difficult for him to turn pages in a book. The pupils are dependant on the teachers ability to listen and understand.
Friendship was the crucial issue. Some had a few friends, disabled as themselves, some had a lot of friends, but did not belong to any group, and happy with that. Victoria experienced that her best friend had changed, and was unhappy. Later she was truly incorporated in a girl group, and enjoyed it.
Friendship is vulnerable, some of the pupils had their best friends in the organization they belonged to, friends they could talk to, friends that understood. Still, these friends are not in the schoolyard to hang out with; talking or soccer playing, so schoolmates are important.
They had worried beforehand, but they now felt they were mastering secondary school.
Results – Discussion
Participation as having a say or participating in activities, is promoted by
Good practices
Friendship
Doing well in school according to abilities
Transport
How the pupils present themselves; as disabled persons and ordinary kids, as teen agers.
The results are to be discussed in the perspective of
Openness, crucial to build a good report
Doubleness, the pupils are seen as both fantastic and as a burden..
Us and them, probably the most important couple of concepts, ever
‘I don’t look at myself at disabled’ Victoria laughs.. it is the others that make me disabled! She is using a social model in presenting her disability (Shakespire 2006). ‘For example when we are sitting in class and discussing what to do, there can be things hindering me, then we find a solution! She is a great problem solver!
Fredric presents himself in another way; ‘I am a different person.. I am quite funny actually.. if I drop something, I can ask them to pick up things for me, and they help me, and that makes me very happy, as I am not a guy who can pick up things from the floor..’
He is also presenting himself in relation to the others, as a guy who cannot do certain things, who gets very happy when people are helping out, without been asked especially, or without being paid or thanked, just helping out, as human beings. Fredric is happy when we behave as caring human beings. He makes people laugh, that’s his gift.
According to Activity Theory, we are deeply dependant on each other, to be happy, it is not an us and them for Fredric, it is a we!
Using a ritual gave structure; it clarified the processes, enabled me to go deeper into all phases, developing awareness of the transition. As for Victoria, the phases of transition and incorporation, seemed to linger on, taking more time.
As experts control the rituals, it is important to see rituals from above; the professionals and from below; the children – children as actors – as having a say.
To quote Fredrik Barth, ‘it is not so much learning about them, as learning from them’
And I have learned a lot from my co-researchers.

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331. Putting knowledge to work for and by professionals: from ‘transfer’ to ‘recontextualisation’

David Guile

This paper starts by outlining the main assumptions that underpin the design and delivery of inter-disciplinary curricula for professionals and the problems associated with those assumptions in educational and work contexts. It then uses Pharmacy as an example to show how these problems have cast a shadow over the attempts to modernize the theory-practice relation. The paper concludes by introducing an alternative conceptualization of the theory-practice relationship and suggesting its implications for Pharmacy.

Problems with interdisciplinary curricula: “front-loading” and “transfer”

The integration of theory and practice in academic degrees, especially inter-disciplinary degrees and degrees that support professional formation, has been a consistent concern for policymakers and universities in the UK since the post-War expansion of higher education led to the growth of more degrees to support professional formation (Rothblatt and Whitrock, 1993). Initially, researchers considered how to improve the design and delivery of programmes of professional formation in higher education by changing the balance between academic study and periods of practice-based learning (Bines, 1992). New models that attempt to redress the balance between theory and practice have emerged, for example, in the fields of Teacher Education (Moore, 2003) and in Social Work (Winter and Maisch, 1993).

More recently, researchers have addressed more fundamental issues. They have identified that, by and large, most degree programmes rest on two assumptions: one is concerned with the design of curricula and the other is concerned with the outcome of learning. The former is best encapsulated by the notion of the “front-loaded” curriculum (Winch and Clarke, 2004), that is, extensive periods of study to introduce learners to theoretical axioms, followed by opportunities much later in the period of study to see that these axioms are applied in practice. The phrase the “transfer” of learning (Anderson et al. 1996) from one setting to another can be used to characterise the latter. Taken in combination, advocates of the front-loaded curricula as the generator of a capacity amongst learners to transfer knowledge and skills tend to conceive of this process of development as a single movement as encapsulated in the term ‘from theory to practice’. This is the traditional model adopted in pharmacy in the 3+1 and 4+1 models.
Over the last decade, both assumptions have been challenged in contemporary curricula and learning theory. It has been recognised that one problem that afflicts all inter-disciplinary curricula is that different forms of theoretical knowledge are characterised by different knowledge structures (Bernstein, 2000) and, moreover, that this state of affairs poses curriculum and pedagogic problems for inter-disciplinary curricula. Stated simply, the problem is: how to incorporate forms of knowledge that are characterised by different knowledge structures in the same curriculum and how to teach them so they cohere meaningfully for learners (Hoskin and Anderton-Gough, 2004; Young, 2007). A further problem is because, all too often, theoretical knowledge is conceived of and presented as an ‘abstract’ form of knowledge in educational contexts and students struggle to transfer such knowledge. Their attempts are continually dogged by not being able to “see” the connection between the knowledge they have been taught in universities and the situations that they encounter in outside educational contexts in general (Greeno, 1998) and in the case of pharmacy, irrespective as to whether it is an academic, industry, and patient-focused setting.

The situation in Pharmacy

Over the last decade, schools of pharmacy in the UK have introduced a number of new curriculum and pedagogic strategies to integrate theory and practice more closely in the current “4+1” period of qualification to support the professional formation of pharmacists. The problems described above have manifested themselves rather differently in programmes of professional formation, such as, pharmacy, compared with inter-disciplinary curricula, such as, bio-chemistry. The purpose of the former is to support learners to make successful transitions into one of three/four pharmacy careers – research or patient-focused contexts. In contrast, the purpose of the latter is to support learners to see ‘connections’ between separate, albeit, complementary disciplinary fields.

Subjects, such as, pharmacy, have always faced therefore a dual-conundrum. Decisions have to be made about: the scientific content of the pharmacy curriculum and how to teach it in such a way that it has a meaningful relationship with research and/or patient-focused contexts; and, the forms of organizational knowledge and skill that pharmacists require to operate effectively in these three contexts and how to support pharmacists to develop and use such knowledge and skills.

The well-intentioned and considered revisions to the front-loaded model of professional formation that have been undertaken in the field of pharmacy have been skewed by the ‘4+1’ model of the period of qualification and the backwash effect of assessment throughout the period but particularly
the impact of the final academic assessment occurring in the fourth year. They have also been skewed, as is now evident, by the legacy of the assumptions about front-loading and knowledge transfer that continue to reverberate through the pharmacy curriculum.

To offer a different starting point for considering how to address the above conundrum, we propose a different conceptualization of the relationship between theory-practice. The conceptualisation is based on the notion of the continuous “recontextualisation” of knowledge and skill in different contexts (Guile, 2010). The concept is explained in the next section of the report and explores how the concept of recontextualisation can be used in the field of pharmacy to enhance and extend the direction of change that has already begun to improve the design and delivery of the pharmacy curriculum, as well as to respond to the call in the White Paper (2008) to modernise careers in pharmacy.

From ‘front-loaded’ formation to continuous ‘recontextualisation’

The concept of recontextualisation (Guile, 2010), unlike the notion of front-loading and knowledge transfer, offers the field of pharmacy a way to trace the link between the selection of content; the decisions about pedagogic strategies (i.e. behavioural or constructivist) and tactics (i.e. lecture, seminar, problem-based learning, placement); the opportunities to participate in professional practices in different workplace contexts, and learners’ engagement and embodiment of those different experiences. The concept also allows us to identify the similarities and differences between knowledge as it is put to work in different contexts. The paper will explain that there are four distinct but nevertheless related modes of recontextualisation. These are:

• Curriculum recontextualisation (CR): this occurs when knowledge, pharmaceutical science or organizational, moves from its original academic context of production into the formal learning programme offered by a university;
• Pedagogic recontextualisation (PR): this refers to the inter-relation between the organisation, structuring sequencing of different forms of knowledge into, for example, modules, and the decisions about the learning activities to support people to engage purposively with those modules;
• Workplace recontextualisation (WR): this refers to the way in which concepts and/or practices associated with different forms of knowledge are embedded in workplace routines and procedures or embodied in peoples’ performances or conditions;
• Learner recontextualisation (LR): this occurs as learners engage with the different forms of knowledge and skill they encounter in different contexts, participate in the different traditions of thinking, reasoning and acting associate with those contexts, and come to develop their own

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embodied sense of meaning and use of knowledge and skills in different contexts.

Recontextualisation is therefore, in contrast to the assumptions of front-loading and knowledge transfer that currently underpin explicitly or implicitly the pharmacy curriculum, a multi-faceted concept. The paper will show how it can be used to reveal how concepts and practice change as professionals use them in different settings, for example, in the curriculum and/or workplace, and that learners’ understanding and use of concepts and practices develop as they make iterative transitions between education and work, based on the use of, for example, work shadowing, visits, placements, etc., throughout the period of their initial formation.

Based on the above observations about the legacy of front-loading and transfer in the attempts that have been undertaken to modernize the pharmacy curriculum, the paper will suggest that the concept of recontextualisation can be used to offer some insights to realize the goal of a single, holistic (i.e. the integration of theory and practice) period of initial professional formation.

Beach, K. (2003). Consequential Transitions: A developmental view of knowledge propagation through social organizations in T. Tuomi-Gröhn and Y. Engeström (Eds.), New perspectives on transfer and
The purpose of this presentation is to analyze some of the early less known and untranslated journalistic publications of L.S.Vygotsky (mostly literature and theater reviews and essays of 1923) in order to search for the development of the main ideas later formulated in the “Psychology of Art”. The book includes his early works, such as the “The Tragedy of Hamlet, Prince of Denmark” which was written in the years 1915-1916 and presented as his senior thesis for graduation from the Shaniavsky Free University. These works will remain beyond the scope of our analysis.

The “Psychology of Art” starts with formulation of a methodology for developing a scientific approach to the analysis of art. Thus after a critical analysis of different existing approaches he writes: “...we can now suggest a new method of art psychology, which... is termed the “objective-analytic method.” Accordingly, the work of art itself, rather than its creator or its audience, should be taken as the basis for analysis.[1] We can see that this principle was central to his approach to literary analysis in Vygotsky’s earliest writings. While still in gymnasium L.Vygotsky wrote a serious essay: “Jews and the Jewish Question in the Works of F. M. Dostoevsky”. (This text was first published in 1997 in the newspaper Vesti in Israel, based on a manuscript copied from a handwritten school notebook kept by Vygotsky’s sister and later preserved by S. Dobkin. Because it was written according to the old orthographic rules it was probably written in 1912-1913, Vygotsky’s last year in the gymnasium.) At this time of intensive contemplation about his own identity it is not surprising that the Jewish theme motivated his analysis.

In this essay we can see that the young Vygotsky has already developed rigorous criteria for analysis of literature, some roots of the future “Psychology of Art”. Thus he writes “in Dostoevsky’s works we find a striking example of how artistic truth avenges itself”. He provides Dostoevsky’s description of how in “The House of the Dead” a Jew is preparing for Shabbat on Friday eve putting on tefillin (phylacteries) describing the process in minute detail, but Vygotsky notes: “After such a description the Russian reader will be shocked to discover that Jews never put on tefillin in the evening and never on the Sabbath eve...Further, tefillin are never put on both hands, but only on the left hand... Nemezida of art does not forgive illustration of the untrue: you do not believe in the Jew of Dostoevsky, he is invented.” He also gives a lot of citations from different literary works showing that Dostoevsky overuses all kinds of humiliating names and labels in description of Jews, so that Vygotsky’s accusation of Dostoevsky of anti-Semitism is not purely
emotional, but based on analysis of his literary works. Such themes related to his Jewish identity continue to be central in Vygotsky’s early journalistic publications in Novy Put’ in 1916-1917 [2]. Another idea developed in the “Psychology of Art” is that the difference between real art and non-aesthetic creation is in subtle differences in form: “the difference between a great painter and an imitator is to be sought in those infinitely small elements of the art that belong to the category of formal elements. Art begins where “scarcely” (chut-chut) starts, and this is equivalent to saying that art begins where form begins.” (Vygotsky, 1925/1986, p.52). In his publications in Gomel’ in 1923 such subtle details are the focus of his attention.

In a theatrical review of a play by Lunacharsky “The King’s Barber” he gives both analysis of the play itself and of the performance. “Using the old literary form of drama, Lunacharsky seemingly beams x-rays on it, rendering its inner springs and social roots visible. ...Two lines - one ascending line of development of a personal desire, and a blinding force of power, and another one a descending line of exposure of the emptiness of this power- develop in parallel nicely, and persuading-beautifully leading to a culmination (the lowest) part in general resolution –the catastrophe of a mockingly prosaically vulgar nature. The faulty side of the play is that there is too much of literature, it is prolix, with the heroes giving lectures explaining themselves and the meaning of the play.” [3]

In another theatrical review he writes: “Human comedy is always a struggle with simplicity of life, rising beyond the ordinary, doing away with the kitchen-sink life. “It was just this way” does not justify a comedy. If a comedy loses laughter it is like salt losing its saltiness. ...human comedy becomes a comedy of boredom.” Again his critique is aimed at subtle details that due to just a bit of overdose spoil the impression. [4]

It is clear from this that for Vygotsky, theatre in the provinces did not necessarily have to be provincial. “One must not think that only a great and sophisticated theatre can generate excitement. Wherever there is life, excitement is to be found…Just as electricity is not only present in lightning, but is also present wherever there is a 25 candlepower light bulb. In the same way, poetry and art inhabit not only grand creations, but also the 16-candle stage of the provinces…” [5]

Another comment criticizing the Jewish operetta for losing the fine and subtle features which differentiate between art and non-art: “The Jewish operetta is not satisfied with a joke. It wants to be both tragedy and farce together, with a pinch of homespun philosophy, and something of the synagogue.” [6]

He is always critical, some of his reviews are emotionally positive but always he is very sharp and focused on subtle features. Thus in reviewing the comedy “ Unexpected valor” (his review is entitled “Unexpected enjoyment”) he writes: “Our theater is craving for a tragedy of true heroism,
but it also needs a farce of a mocking false heroism, which is burst like soap bubbles. We need both the heroic and the comic equally... the theme of a fool is exhausted completely. Impossible to be more stupid, more worthless...It is some kind of shining stupidity, sparkling absurdity,...pure nonsense.

The joke is slightly weakened by a touch of vaudeville rubbish in the acting: a bonnet of an old lady, a little bow tied under the chin, lisping tones of speech etc.” [7]

In an extensive newspaper interview Vygotsky brings a description of the resurrection after the Bolshevik Revolution and Civil War of the “Red Torch” Odessa theater troupe, quoting extensively from its director, V. K. Tatishchev. The approach and analysis, are, however, so similar to Vygotsky’s own ideas on art and literature that the words might have been his. He quotes Tatishchev: “I, as much as possible, tried to present a diagnosis of the reasons for the cheapening and decline of the theater. Once these causes had been defined, I was able to base the organization of the theater on a set of exactly opposite principles.

Here they are in brief. An absolute familiarity with form. A full mental identification with everything that happens on the stage. A deep love and feeling for theater, for its existence, for the play and for the role.” [8]

In his newspaper articles in 1922-23, he writes on literature, theater and a proposed theatrical technicum; about both local and visiting troupes; and on Jewish, Russian and Belorussian theatre. Here he took upon himself the role of educator. His criticisms were aimed on the one hand at forming a demanding cultural audience and on the other, literature and theatre, which could rightfully be called art. Critical notes often are followed with appeals like: we have to find another way; it is time for new themes etc.

5. L.S. Vygotsky, “K zakritiu sezona”, (“For the season’s closing”) Nash ponedel’nik, 12 March, 1923, p. 3.
8. L.V. An interview with the leader of the “Red Torch” Nash ponedel’nik, 1923, 06.04.
334. The articulation between individual and collective dimensions in Cattaneo, Wundt and Moscovici: a cultural perspective

Luca Tateo – Antonio Iannaccone

The paper presents a theoretical discussion about the articulation between individual and collective dimensions of mental activity, starting with an analysis of some concepts in the works of Wundt and Cattaneo, concerning the relationship between individual processes, practices, artifacts, symbolic systems and functions of representations in development of culture and individuals. Carlo Cattaneo (1801-1869) ([1859-1866], 2000) proposed the idea of a collective mind which is not the mere sum of individual minds within a given culture. This idea is part of a wider discourse on the development of human kind similar to the folk-psychology of Wundt (1832-1920) ([1916], 1952). Cattaneo argues that the cultural development acts through the process called “antithesis” (Cattaneo, [1859-1866], 2000), that is what we call today social construction of knowledge. Both the authors propose a vision of the relationship between continuity and discontinuity in the development of culture as well as in the relationship with the individual mind. The same articulation can be discussed with respect to the theory of Social Representations (Moscovici, 1976/2004; Valsiner, 2003). Moscovici himself stated that within the social psychology the problem of the relationship mind-culture is still open and that the main scope of the theory of Social Representations is to study everyday thinking and communication in order to understand the link between individual psychology and culture (Moscovici, 1988). The comparison of the relationship between social and cognitive phenomena, communication and thinking in these three authors leads to the redefinition of the concept of Social Representations as a frame for the negotiation of social meanings. This question is presented and discussed within an historical and cultural perspective, in search of the conceptual roots of a sociocultural psychology (Valsiner and Rosa, 2007).

The relationship between Social Representations, symbolic systems, practices and sense making is a process of elaboration which is developed through communication and practice along time in the constant tension between individuals and collectivity. Another element emerging from the comparison of the three scholars is the thinking of the relationship individual-culture into a genetic perspective. At the phylogenetic level, the Social Representations are the space of meaning negotiation managing the tension between continuity and change along the generations. At the ontogenetic level, they are instead the space of elaboration of the specific individual social identities and of the set of differences between groups. Social Representations are the frame and link between the sense of continuity with the past, the sense making of the present events and the anticipation of
the future plans and events.
It is finally argued that the comparison between the thought of Wundt, Cattaneo and Moscovici leads to the idea of the Social Representations as both the content and the symbolic mediator of the play between continuity and discontinuity in culture could be a useful conceptual tool to reflect upon the genetic articulation between individual and culture. The system of Social Representations defines the borders, the constraints, the meaning of the practices and norms, what may be said and be not, within and between generations (Moscovici, [1976], 2004).

Developing a leading identity across the transition to mathematically demanding programmes at university.

Laura Black, Julian Williams

In a previous paper (Black et al. 2010) we drew on interview data with post-compulsory mathematics students to present the concept of ‘leading identity’ which, we argued, defines the student’s motive for study and shapes their relationship with mathematics. We argued that whilst some students might focus on a leading identity of ‘being a student’ and thus, engage with the activity of ‘studying’ merely to gain qualifications, others focus upon ‘studying’ with a vocational future in mind and thus attend to the ‘use value’ of mathematical knowledge beyond the institution of schooling. In that paper, we presented the story of Mary who had a leading identity of ‘becoming an engineer’. We argued that this leading identity gave her enough motive to persist in studying mathematics in the face of troubles. In this paper, we wish to explore the sustainability of this leading identity for Mary as she experiences transition from college to university. We now have six interviews (two at university) and in telling her story; we seek to understand how Mary’s leading identity is positioned within the landscape of other identities available to her.

Theoretical Framework

Our previous paper developed the notion of leading identity using Leont’ev’s (1981) concept of leading activity. Leont’ev argues that whilst children encounter an array of activities in their daily lives, some are of greater importance in terms of their development. For instance the emergence of ‘rule based’ play presents a significant shift in the child’s awareness of social relations and interactions which paves the way for ‘non-play’ rule bound activities (e.g. schooling, sport). Crucially what defines an activity as leading is not its dominance in the present but its role in shaping particular psychic processes to the extent that development is essentially dependent on such activities. In our previous paper, we argued that the post compulsory phase of schooling could be seen as a leading activity if it prepared students for the next developmental stage – e.g. university or work.

Our development of the concept of leading identity also draws on Leont’ev’s (1981) account of personality which we prefer to translate as ‘self’ in line with others in this field (e.g. Stetsenko and Arievitch, 2004). Leont’ev argued that since we are the unique product of many different cultural activities, we encounter many motives and thus many subjectivities within our lives. As we have argued elsewhere, over time, these subjectivities are reflected upon and may become crystallised as identities which relate to the specific activities in question (Williams et al 2007). As such, we have a collection of identities upon which to draw at any one moment and Leont’ev argues
that these become hierarchically organised within the self (or personality). Thus leading activity provides a structured hierarchy to the self where certain identities become more or less important to our developing self.

In this paper, we seek to explore this framework further through analysing the various ‘competing’ identities Mary must negotiate in addition to her leading identity of ‘becoming an engineer’ as she progresses to adulthood. Thus, we highlight the complexity of her story and suggest that this requires us to re-consider the notion of ‘leading’ in our analysis of leading identity.

Preliminary Analysis

As in previous interviews, Mary remains committed to engineering as a career, although her aspirations have become a little more refined towards aeronautical engineering. Additionally, she also frames her motive for her current studies in terms of her long term plan to ‘become an engineer’: ‘I think it [recent success on her course] was just because I finally knew what I wanted to do. […] I’ve always wanted to do a sort of Maths and I knew I liked making things[…] I can’t wait to get my job and you know, call myself an engineer. It’ll be such a great moment in my life I think.’

Hence, we suggest that Mary’s identity of ‘becoming an engineer’ still remains leading in the sense we previously suggested. However, this was not the only identity that Mary spoke of in describing her engagement with her course. Her interviews contained repeated references to other identities, particularly her ethnic identity as a Pakistani female. For instance, she told of a family narrative regarding her ‘designated future’ and the activities which this might implicate: “we have a very backwards sort of family. It’s a very Asian sort of, you know, girls should stay at home to do the cooking— […]Where the guys go out and work.” Thus she draws on an identity of being an Asian female which implicates a different sequence of leading activities to that of becoming an engineer which may be seen as ‘schooling followed by motherhood/domestic work’. Furthermore, her interview data suggested that being an Asian female created tension with her leading identity of ‘becoming an engineer’. Below, Mary spoke of this tension in describing her motive for study and how this was perceived by some members of her community:

‘I think they were just worried about me being a girl, erm, because I’m a Muslim girl. […] Erm, and obviously in Islam … you shouldn’t really, .. let men touch you […] because … all my friends are really guys, … sitting next to them, …to most people that would look quite bad… a lot of people think I’m doing it for silly reasons, but……in my heart I know I’m not doing it for silly reasons, … I’m here for me, I’m doing my work, I’m not messing around. So there’s, there’s been a lot of that happening.’

Such tensions also seemed to affect her decision making and choices in respect to studying.
Engineering at university. She spoke of having to convince her parents and her sister that ‘Engineering was something I’ve always wanted to do’ and informed us that ‘my step-granddad he doesn’t agree with it still.’ But she tells us ‘… I’ve just started to ignore him now because it is just, I’m so happy doing this course…’ So Mary tells us that her trajectory of ‘becoming an engineer’ has implicated some resistance to the designated identity laid out in her family narrative. However, a sub-story regarding why she chose to go to X university and therefore, undertake a Foundation Degree (involving an extra year of study) rather than go to her first choice of institution, suggests that her identity as an Asian female has had an influence on her choices and decision making. This allowed her to remain living at home rather than move away – a prospect which she had some difficulty with.

Discussion

In conclusion, Mary’s story encourages us to believe that for her ‘becoming an engineer’ is still a leading identity in the sense we previously argued, but her story has now developed complexity and the term leading must be qualified and questioned.

Let us consider for a moment then whether being/becoming an ‘Islamic girl/woman’ is another contender for a leading activity that prepares for a particular, future activity - that of a certain kind of Islamic family woman, and possibly mother. The social relations and activities in the family might play such a role, and as woman-hood and marriagability approaches it might come to be a key, leading activity. If we think of ‘mothering’ as being as much an essential social (adult) activity as 'working', then we might begin to posit that young women such as Mary might be becoming engaged in two contrasting ‘leading activities’ in preparation for adulthood.

Thus, the hierarchy of 'self' which we referred to earlier becomes more complex relationally. We are led to contemplate the idea of multiple leading activities, with more than one identity providing structure to the ‘self” and paving the way for development into adulthood. Thus, we argue here that there is potential for developing multiple identities but this is still very much shaped and defined by social and cultural-historical conditions. One cannot necessarily write oneself any identity at will: in Mary’s case she is so positioned that adopting the identity of a male white nurse, for instance, is still probably unthinkable.

Mary’s story also reveals tensions and conflicts within this complexity of relations: for instance, we have indicated that Mary may have made a compromise between her two leading identities in her decision to take an additional foundation year at a local university in order to remain living with her parents. It may be however that she is working on a contradiction (i.e. Islamic minority Asian girls don’t do engineering, but here I am…) that will change the social identities of both (being a good Muslim girl and being an engineer). This remains to be seen.
This study reflects upon the present Brazilian educational context taking into account the challenges and dilemmas of the sociohistorical moment termed Late Modernity, which involves global changes of great magnitude. Among them, the ubiquity of media and image cultures concerning contemporary meaning-making is flagrant, affecting traditionally conceived forms of literacy. This aspect provides the general frame of the present paper which, concentrating on the “media culture-school culture” hybrid, investigates some of the consequences of globalization for the design, implementation and evaluation of interventionist school projects. The presentation is theoretical in purpose as it discusses and rethinks classic notions of language, literacy, competence, community, teaching, learning, time and space, formulating proposals for a new approach to these issues. More directly, based on the idea that language practices are intrinsically interwoven to processes of globalization (Blommaert, 2010), it argues for the abandonment of the Saussurean paradigm still orienting part of the work in Education, Linguistic Studies and other areas of the Social Sciences. The idea of a globalized world forces us to conceive of a view of language and discourse which is more responsive to the complex features of contemporary dynamics such as increased mobility, interconnectedness, polycentrism, changing geolinguistics, multilingualism and multiliteracies to name but a few. In spite of its theoretical ambition, the study is empirically grounded drawing on extensive analysis of data generated during an interventionist ethnographic classroom research project, carried out in a state school in Rio de Janeiro (2003-2005), in a specific literacy context – History classes in a Brazilian State School, in which both the classroom teacher and one of the researchers, working with 5th grade students, conjointly try to de-stabilize common sense views of gender and sexuality. By making ample recourse to media texts and to radical hybridity, they work towards promoting classroom literacy practices which deground certainties by shaking them through border-crossing (Mignolo, 2000) and triggering the negotiation of alternatives or novel meanings for social life – especially in reference to essentialized meanings about gender, sexualities, race and culture, among others. Therefore, theoretical issues are addressed based on detailed empirical analyses of classroom literacy practices, capturing different interactional moments in which media intertexts and gender and sexuality performances intersect, locally and provisionally transforming the panoptic heritage. Such a recurrent movement produced intelligibility regarding phenomena of the following nature: when, how, under which conditions, and with what kind of meaning effects (interactional, corporeal-discursive and educational) media culture and school culture intertwine, giving rise to identity performances of genders and
sexualities? To what extent such performances and stylizations engender microresistances to panopticism?

It is this empirical frame that guides the theoretical effort to be made, which interfacing sociolinguistic microanalyses (Coupland, 2007; Rampton, 2006) – a theoretical-methodological approach delving into the details of conjointly organized talk and its effects on moment-to-moment interactional moves – and Foucauldian micropolitics (Foucault, 1979/1995), i.e., the analysis of the molecular workings of power in the enactment and reproduction or transformation of social relationships, that enables the revision of traditional paradigms regarding intervention processes in school settings and the exercise of scientific and reflexive imagination. The logical articulation suggested is that an accurate scrutiny of both interpersonal actions in the classroom – emphasizing emergent stylizations and identity performances (Coupland, 2007; Rampton, 2006) – and micropowers and “technologies of the self” (Foucault, 1884/2003) may throw light on broader societal tendencies and on more general levels of the power practices, mechanisms and tactics at play in contemporary institutional experiences. The study thus advocates that a methodological combination of ethnographic bias and larger scale framing systems, i.e. “analysis of small phenomena set against big phenomena” (Blommaert, 2005:16), may produce understanding concerning the friction between new emerging learning regimes and foundational educational roots, as it connects ‘micro’-instances of social practice with ‘macro’-levels of social structure and history.
Community engagement is a core principle of the New Zealand Curriculum (Ministry of Education, 2007), which proposes that curriculum has meaning for students when it ‘connects with their wider lives, and engages the support of their families, whanau, and communities’. This engagement can be challenging for schools and teachers to achieve. Exchanges concentrate on informing parents about what is happening at school rather than drawing on the resources that communities are able to offer (Bull, 2010). It is therefore not surprising that while schools are often described as being in communities they are seldom of communities (Bouillion & Gomez, 2001). In the case of school science it is argued that a lack of meaningful connection between school science and children’s everyday lives contributes to children’s disengagement with science (Fensham, 2007). Students do not necessarily see how school science relates to their lives, particularly if there is a difference/mismatch between the culture at school and in their homes and the culture of science. This is of concern given the role science plays in society today.

In line with current views of culturally responsive pedagogy (Ladson-Billings, 1995), our position is that students are competent participants in multiple communities before they enter the classroom. These communities include family activities, sports teams, church groups, music groups, and community-based cultural groups. Moll, Amanti, Neff and Gonzales (1992) explored ways in which teachers could become aware of the ‘funds of knowledge’ or ‘historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual function and well-being’ (p. 133) children have. In science education, researchers have worked to explicate role the teacher plays in recruiting student funds of knowledge to engage minority students (Upadhyay, 2006). Boundary objects offer a means to do this. Cooperation and communication between communities can be initiated and sustained through the use of boundary objects, including artifacts, documents and other forms of external reification, and by boundary encounters between the people from the different communities (Wenger, 1998). When boundary objects mediate between communities in ways that contribute to the co-construction of meaning they serve as sources of energy and empowerment (Thomas, Hardy & Sargent, 2007).

Artifacts per se are not boundary objects. For artifacts to become boundary objects in Wenger’s
sense they need to be supported through practices and people that provide focus, purpose and opportunities for joint negotiation of meaning and coordination of perspectives (Coburn & Stein, 2006). Consequently, boundary objects cannot be divorced from the culture for their use and the interactions in which they are embedded. An artifact that is used for the purpose of enabling cooperation and communication across groups needs to be malleable enough to adapt to local needs whilst maintaining a common identity across community sites. In this way, boundary objects do not privilege one or the other of the communities, both groups have interest and opportunities to gain from any interchange.

In this paper we report on one aspect of a Teaching and Learning Research Initiative study that sought to understand how teachers might enact a more culturally responsive pedagogy in their primary science lessons through the respectful incorporation of children and community funds of knowledge. The study is situated in New Zealand primary science classrooms. In this context, the indigenous people of New Zealand, are over-represented in the lower performing group in PISA and TIMSS science results. New Zealand policy documents including the New Zealand Curriculum (Ministry of Education, 2007) and Ka Hikitia (Ministry of Education, 2008) make it clear that schools have an obligation to ensure that Māori children participate and succeed in education both as Māori, and as active and successful participants in the modern world. Success for students in general school subject areas should not come at the cost of their language and identity as Māori. Put another way, the vision is that education develop young people who will contribute to an Aotearoa New Zealand in which Maori and Pakeha (New Zealanders of European descent) recognize each other as full partners, and in which all cultures are valued for the contributions they have bring. This vision relies on teachers fostering students’ feelings of ownership and belonging and teachers finding out more about the cultural values, experiences and aspirations of all their students, including their Māori students and their families and whanau by building strong relationships between children’s home and school lives.

Two teachers in our study sought to provide opportunities for families to participate in and contribute to their students’ learning. Video data and field notes were collected both in the classroom and at after school meetings over the course of the teaching units (6 and 9 weeks respectively). One unit focused on adaption of sea creatures, the other one on the seasons and day and night during Matariki (Maori new year). This paper presents how the teachers encouraged children to seek out and contribute ideas from home. They used ‘home learning books’ to facilitate conversations between home and school. Different from traditional “homework books” they were
used to source information about the questions and answers the students had during the course of their science learning. The children took the books home and shared their questions with their families who contributed either by writing in the books and discussing the children’s questions. The data for the paper comes from classroom observations, student interviews, parent comments and teacher reflections on the role of the books. These three groups provided comment on how they felt about the home learning books and how the books contributed to the children forming a meaningful relationship with the science learning they were engaged in. We argue that the books as boundary objects, mediated between the school and home communities. The learning books and the activities associated with them were grounded by the need to discuss questions and issues posed in class and by the children and transported home via the books. The questions and the books allowed plenty of scope for people to offer and represent their ideas and suggestions. The home learning books interrupted the traditional power differential around communication between home and school by positioning the teacher, the students and their families as learners together. The students were empowered by the books to access funds of knowledge from home and to contribute these in the classroom. Using the books shifted the focus of student-parent discussions to the knowledge and skills parents and children had to contribute from the previous life experiences. Both teachers valued the rich contributions they generated from extended family members, all the more as they saw the children’s positive response to their respectful consideration of this knowledge. This said, differences in the way students and families from the two classes used the home learning books highlighted that as a boundary object the books could not be considered separate from the culture for their use within the school and classroom, and the interactions they evoked and in which they were embedded. The home learning books opened up a space where talking about and explaining natural phenomena is something that can be done and experienced by many people, including people who were important to the children. The paper concludes with suggestions for further research and development.

References


Introduction

The studies from the successful knowledge creation and inquiry-based classrooms have been reporting promising results for the purpose of education in the knowledge age (Zhang, Scardamalia, Reeve & Messina, 2009; Hmelo-Silver et al. 2007). In inquiry and knowledge creation based learning approaches the aim is to engage classroom community in tackling with open-ended complex problems and exploiting collaboration. The aim is to support handling the ideas and knowledge continually improvable and raise the students’ own ideas and questions at the center of working (Scardamalia 2002). This could be promoted by getting community to define their own learning goals and get them engaged in collective cognitive responsibility of their own process (Scardamalia 2002; Zhang, Scardamalia, Reeve & Messina 2009).

However, many knowledge building studies have non-intentionally been given the impression that students could engage in collaborative knowledge advancement on their own. The studies concentrate on reporting students’ achievements and leave aside the teacher’s guiding role or the value of suitable classroom practices in the setting (Hakkarainen 2009). In addition, if the local classroom culture is colored with traditions or passive voices, and the students are expecting the teacher to lead their knowledge acquisition, the implementation of totally new kind of working practices is evident in order to reach collective cognitive responsibility for the advancement of collective knowledge and inquiry.

Challenge for the teacher, when directing the classroom from traditional teacher-driven approaches towards shared inquiry aims, is to tolerate openness. When the process and the object of inquiry are designed in collaboration with students, the outcome of the inquiry cannot be fully known beforehand – neither the phases of the process nor the content to be studied. In addition, although aiming towards collective responsibility and shared aims, the students should be offered enough support (Hmelo-Silver, Duncan, & Chinn, 2007). There is a need to understand how the teachers and educators should design and organize the inquiry setting by implementing educational aims in the concrete elements in the educational setting: instructions, groupings, and the use of technologies and information sources (Jones, Direkink-Holmfeld, Lindström, 2006; Lakkala et al., 2008) and how to support the working in the ongoing process. Nevertheless, there are also serious concerns (Scardamalia & Bereiter, 2005) that too-strong structuring undermines higher-level objective of
inquiry learning because it makes peripheral the pursuit of advancement of the students’ own ideas.

The desired classroom culture with collaborative learning practices requires intensive practical work from the teacher and from the whole learning community (Roth, 1998). The teacher’s active role is highlighted in the way how she/ he supports and scaffolds the students’ activities. Teachers have to change their traditional roles, take their position in the learning community and themselves become participants, more-experienced old-timers, without losing their authority. At the same time, they need to be responsive guides when supporting and scaffolding students’ processes (Roth, 1998).

Roth (1998) describes key aspects in teachers’ actions that support the transformation of classroom practices in his study in a student-centered open-inquiry classroom community. He states that good scaffolding includes productive question techniques that lead students to think and produce their own explanations. This requires a great deal of competence from the teacher in the discursive practices of the subject matter domain (Roth, 1998). Furthermore, the teacher should create opportunities for collaboration and sustain such student-centered discourse where students are encouraged to use the concepts of the subject matter to explain their own working process, and question and give feedback to each other. According to Roth (1998), competence in using such concepts won’t appear immediately, thus the teacher should use different kinds of subject domain material artifacts and representations as conversational anchors: the presence of artifacts allows students to communicate sufficiently by pointing and gesturing, grasping the subject domain language and tools. Little by little, teachers’ questioning can be faded as students progressively gain understanding of the discourse and practices. In this process of extending students competence, it is important that a teacher be able to highlight and reflect children’s everyday experiences that are suitable to the present learning context, and raise these experiences to resources that can be shared by the whole learning community. The teacher’s aim is to integrate students’ personal experiences, classroom discourse, and formal subject matter discourse. In other words, teachers are network builders who do their best to engage members and tools in the classroom community.

Aims and scope of the study

This paper focuses on the dilemma created by the promises and demands of students’ collaborative inquiry learning on the one hand and lack of competencies in carrying the collective cognitive responsibility of inquiry on the other hand. As conclusion, we need to know more about how the inquiry culture in the classroom could be implemented and promoted and make the teacher’s usually invisible work in guiding and directing classroom practices visible. In this study, we analyze the teacher’s realized guidance practices when promoting the technology-enhanced collaborative inquiry process in her classroom. The preliminary research questions are following:
How the teacher guided students in their inquiry during their collective whole class sessions?
How the collaborative learning environment and the shared view were used for supporting their collaborative object oriented working during their collective whole class sessions?

Research method
The context for the study was “The Artifact Project – The Past, the Present and the Future” at Laajasalo Comprehensive School, Helsinki, Finland, in the years 2003-2004 (Seitamaa-Hakkarainen, Viilo, & Hakkarainen, 2008). This intervention has been inspired by the knowledge-building and progressive inquiry approaches which aim at engaging both teachers and pupils in building new knowledge and understanding (Scardamalia, 2002; Hakkarainen, 2003). The project was designed together with the researchers and class teacher, who is familiar with previous approaches and have been implementing them in her class. In the project, 32 students participated. The project started in the beginning of the second term of fourth grade and ended at the end of the fifth grade. The teacher had begun working with this particular class only in the first term of their fourth grade. The students had learned in their earlier school years the teaching and learning activities, where they followed traditional schooling culture with teacher-directed activities and pre-given problems. The aim of the Artifact project was to support students’ understanding of the diversity of artifacts in their cultural context. The students were asked to analyze artifacts within a cultural context, to study physical phenomena (such as electricity) related to artifacts, and to design future artifacts. Furthermore, the aim was to break boundaries of traditional schoolwork by supporting students’ collaborative knowledge building with the help of various domain experts. In the project, the collaborative learning environment, Knowledge Forum, provided tools for visualizing and building knowledge. (http: www.knowledgeforum.com)

Our research relies on an ethnographic data collected during the longitudinal study project. In the present study, we focus on the teacher’s realized support and guidance practices with the help of video-recordings (70 hours). We selected all those sessions that represented collective whole class situations with teacher’s guidance or teacher’s and students’ joint discussions. All the sessions are divided in distinguishable episodes according to intention of the discussion. Within the episodes, the used tools and the teacher’s support during the episodes are analyzed. The analysis captures, for example, the teacher’s implementation of the elements of collaborative inquiry in her guidance, and the teacher’s ways of using their collaborative learning environment or other computer views through the shared view.

Results and conclusion
According to our analysis the teacher had a crucial role in leading students in collaborative inquiry culture, where they would share collective cognitive responsibility of their own goals and process.
In order to help students to reach collaborative inquiry practices, the teacher needed to structure their process and guide them, for example, by questioning and connecting the activities with their past activities and earlier inquiry phase, and help them to participate little by little. The teacher also gave very concrete descriptions about different inquiry elements in practice. Even the whole class discussion was mediated or nourished through the teacher, she was pushing the students in having their own voice heard. The teacher also engaged students to participate to the strategic planning within their competencies by directing their attention and summarizing the present inquiry phases. Knowledge Forum made the process visible and mediated the collective achievements and also the teacher’s background structuring to the whole learning collective. The use of the shared screen during the whole class sessions as their collaborative on-time developing object supported their goal oriented discussions and creating process. We can conclude that without teacher’s structuring and directing, at least in this local classroom culture, the pupils’ engagement in depth cycles of inquiry would not have been possible.
One of the working lines of DEHISI@’s research group focuses on the development of technological tools for education and social intervention. Most of those developments are based on the working methodology 5th Dimension emerged within the LCHC at the University of California. The 5th Dimension methodology refers to an educative network, connecting communities of children with university students, educators and researchers in an activity that combines education, play, collaborative learning and technologies.

Many Universities in different Europeans countries as the University of Copenhagen in Denmark, the Blekinge Institute of Technology in Sweden, the Autonomous University of Barcelona in Spain, as well as in Finland and in Germany, have implemented 5thDimension and are working under this paradigm. The international network also includes many different Universities of California, Colorado, Miami, Puebla or UNAM of Mexico and in Brazil.

Following the initiative started by Professor Michael Cole (University of California San Diego) based on his research and implementation of after school programs activities to create digital stories, in 2004 DEHISI@ appropriates such activity as a way of respond the needs of children with social exclusion risk. In this activity the guys are involved in a context where the meaning, rules and goals are negotiated and consensual, and doing from their own interests motivational tools for the educational activity.

Merging both experiences we designed and conducted an activity of digital stories, to give an answer to several objectives such as: a) to organize an activity where the children themselves are the creators and active participants in their narratives, revealing identity issues. b) To encourage digital literacy with technological tools for those who their social situation has been unfavorable c) To promotes basic educational skills as reading and writing but in significant practices.

All these objectives just quoted, will be later analyzed in this paper, in order to get a clear picture of the tool that we propose: the moodle4kids.

Moodle4kids has born observing the experiment from Professor Cole that started, many years ago, an international network of children using a Wiki platform. This experience aims to offer to children a space that could be understood as a showcase and a space of sharing stories one to each other. His work pointed to the creation of an activity where kids could share their stories; offer an audience to their narratives, and foster this space like a meeting point for intercultural and
intergenerational exchanges. As members of the uclinks/5D network, DEHISI@ also participates but we noticed some boundaries the proposal was unable to reach. For example, we observed that Wiki was non-friendly for children due to its intrinsic low structure guide. During the two years that the activity was developed, we found the educators were the ones who were really interacting with the Wiki platform, sharing the stories of their students because as they said: "had been to complicate for the kids do it for themselves". So the activity didn't engage children that became mere spectators of the process when their participation was a main goal.

At that point new requirements raised that were think were not addressed using Wikis platforms.

From the daily experience grew a new proposal to develop a new virtual artifact that responds to our own local needs as well as been approipriable for other local communities to be the foundation of an online community. We follow a long process to arrive a conclusion that we need to develop a new tools that respond to our specific needs. In a first moment, we check some tools that were already on the net, the most of them were not create with this educative final goal but some of them we could use it for that. We analyses the potentialities of them, the limitations, and very specifically the uses that the children and the educators do and can do with them. Some of this tools like blogs, webpages editors, social communities, wiki, forums, etc. had a good background to engage children but we realize that for our community goal we could not use this different and separate tools, we would like to have a community that could integrate the functionalities that we could find in different net spaces but all together. So, we begin to work to create our own specifically artifact, something more than a simple tool.

We called this new artifact "moodle4kids" and it's been developed, in one hand to stand a child-friendly community of practices, and on the other to be a space where children can create, share and/or collect digital stories that include text, video, sound and image, allowing the emergence of intercultural and intergenerational networks of relationships between all of them.

The design, develop and implementation process had been done through cyclic and recursive process, from our previous experience we raised the list of requirements, a storyboard of the tool and we developed the beta artifact that we tested in real context and allow us to introduce the improvements that today we have.

The main goal of this paper proposal is explain the design's process and to offer Moodle4Kids as a collaborative artifact to introduce storytelling activities in practice communities.
Learning to cooperate about knowledge construction in conversations in early childhood education

Liv Gjems

Halliday (1993) claims language to be fundamental to humans learning and that ”the distinctive characteristic of human learning is that it is a process of making meaning-a semiotic process; and the prototypical form of human semiotic is language” (p. 93). According to Vygotsky (1978) the basic factor in semiotic mediation is the children’s acquisitions of cognitive dispositions to understand and learn in their social environment. Young children learn primary through interactions with adults and peers and conversations represent important areas for learning (Snow, 2000). Hasan (2002) indicate how much children learn without parents and teachers being aware of it. She claims that mediation occurs in discourse embedded in everyday ordinary activities of a child’s life and underpins the importance of semiotic mediation as the genesis of mental dispositions and the social subjects’ culturally learned sense of what matters in life. At the same time Hasan argue that there is every reason to suppose that these mental attitudes are critical in the visible semiotic mediation, which is active in the genesis of the so called higher mental functions. Hasan (2002) points out that the patterns of everyday conversations are so ordinary and go on continuously and thus represent very efficient ways of learning. Conversational patterns are forms of learning that take place from the moment a child is born into a specific culture; they become the motive power for the child’s attention, interests and her awareness towards other persons (Wells, 2007b). Hasan therefore stresses the importance of studying everyday conversations, because these are based on routine actions that very rarely are central objects of reflection. In early childhood education in Norway most of the days consist of spontaneous everyday conversations between teachers and children. These everyday interactions have had little attentions in research, teacher education and in the kindergartens. The research question I pose in this paper is: What do children learn about cooperation when they participate in conversations with teachers and peers in Norwegian Kindergartens? The focus in this study will be how teachers promote children’s participation and cooperation.

Relevant research

A number of studies have been conducted over the years examining preschool talk, which have highlighted a significant change in the child’s communicative role from the setting at home to the kindergarten. Wood et al. (1980) found that 40% of the total of all ‘moves’ made by the adult when conversing with children were composed of questions classified as controlling moves. In the same
analysis it was found that children’s questions totaled only 7% of all their moves. They concluded that the adult’s tendency to overuse ‘controlling’ moves, such as questions, and their preoccupation with managing conversations had definite consequences for the way children responded or participated in classroom talk.

Looking at questioning in particular, Tizard and Hughes (1984) found that children who were asking 50% of all the questions at home went on to ask fewer than 5% at preschool. Wells (1986) observed that questions asked by children fell from 12.7% of all those asked at home to 4% at school. In his study of dialogues in the classroom Wells (2007a) found a predominant use of the IRE question – answer format. Siraj-Blatchford and Manni (2008) found that early childhood teachers asked children many questions, but only 5% of the questions were open question that invited the children to participate to formulate ideas, problems or narrate.

Methodology

Background and setting

The study was accomplished through video-observations and carried out in a small-town kindergarten consisting of 4 classes. Each class had 20 children, one teacher and two teacher assistants. The observations were carried out while I was sitting with a handheld video-camera close to the teachers interacting with groups of three to five children engaged in some kind of everyday activity. The video-observations comprise of 8, 5 hours of observations of the three teachers over a period of four months.

Procedure

The conversations were then transcribed according to the Child Language Data Exchange system (MacWhinney, 1991). The analyses were designed to study how the teachers invited the children to contribute to the co-construction of meaning. The two following main categories were used to analyse the conversations: 1) the teachers’ invitations to the children to participate the developing of a shared subject, 2) the teachers’ promotion of the children’s collaboration with each other on developing a shared subject.

Findings

The data material contains 15 transcribed conversations lasting from 4 to 15 minutes. There were a total of 2063 utterances in the transcribed conversations. The teachers made 799 utterances and the children 1264 utterances, many of which were one-word utterances. The teachers’ utterances comprised 234 questions, of which 29 were open-ended questions and 14 of these led to interactionally developed subjects. The findings revealed that the children never asked their teachers about their beliefs, what they might think or mean. Five times they asserted something the teacher reacted on and explained something to the child. An example is presented below. Here a
teacher and two children, both three years old, sat at a table and were occupied with building blocks. Then another boy, Hans, aged five years, ran across the room with a book under his arm; he disappeared into a little room and closed the door. The teacher and the two children talked about why he did this. Siv crept over to a window to spy on him, and then returns to the table.

1TEA (teacher): did you see what he was doing -? (whispers)
2SIV: he was drawing – (whispers too)
3TEA: he was drawing -. (nods)
4TEA: maybe he is working on a Christmas present -? (engaged)
5SIV: ye::s - (engaged, whispers too)
6TOM: or maybe he is writing a card for St. Claus -? (aloud, eager)
7TEA: yes –! (whispers, nods)
8TOM: or maybe he writes a want list -? (enquiring tone)
9TEA: maybe – (whispers, looks at the children, they are quiet for 4 seconds
10TEA: he wants talk about it either -. (inviting tone)
11SIV: no:: (shakes her head)
12TEA: it might be something secret -?
13TOM: I believe he is drawing-! (certain tone)
14TEA: I think so -. (confirming)

Both the teacher and the children presented what they believed was the reason why Hans would not join them. The teacher's inquiring attitude in line 2 invited both the children to develop explanations of what might have been Hans’ intentions. The teacher invited and supported the children when she confirmed their utterances and asked new questions. However she did not ask questions to prolong the children’s suggestions, for instance what Tom thought Hans wrote on the want list. The teacher also talked to one child at the time and did not encourage the children to listen to and develop the ideas or beliefs of the other child. The teacher invited the children to participate but all their contributions were directed to her and the children did not pay any attention towards each other, for example by asking Siv in line 10 what she thought of Tom’s suggestion in line 8.

Discussion
Mercer et al. (2003) emphasise the importance of children’s exploring activities to their learning processes. The teachers in this study asked some open but mostly closed questions, they smiled, and looked as if they themselves would like to think about the shared subjects some more. An interesting question is what the children are learning in these conversations, what meanings they are constructing, and how their development is advantaged by these interactions. The interactions can be described as giving benefits for the children’s self-esteem and wellbeing, but there is little
evidence of other kinds of learning. One of the main discoveries in this study was that the teachers never posed questions concerning children’s beliefs, opinions or thoughts were used on rare occasions, only 5 times. The effort to fully comprehend the utterance of another also involves uptake and an active movement toward a response. It is therefore both in the act of “saying” and also in that of responding to “what is said” that individuals actively participate in the building of a common understanding and simultaneously extend and refine their own (Wells, 1999).

Implications of this study suggest that early childhood teacher education should emphasise the efficient ways of learning that everyday conversations represent (Hasan, 2002). Early education teachers must be aware of the importance of inviting children to participate in language interactions and engage in challenging conversations with adults and peers. This is probably not important only to Norwegian early childhood teachers. Research from the UK and US (Sylvia m.fl., 2010, Dickinson og Caswell, 2007, Wells og Araus, 2006) also points to the fact that conversation in preschool too often consist of closed and controlling questions. There is a need for more knowledge about how teachers can promote collaboration between teachers and children, as well as between peers, in the construction of meaning in everyday activities.
Engagement in Cultural Heritage

Interactive technologies are increasingly becoming part of cultural heritage museums as a design material for exhibition designers and as a means through which visitors experience exhibition spaces. Within museological traditions as well as within interaction design this development has fostered a focus on understanding how various technological means may support aspects such as social interaction and participation (e.g. Heath et al. 2005), learning (e.g. Pierroux et al. 2007), and visitor engagement (e.g. Edmonds et al. 2008).

Our approach to the design of technologies for exhibition spaces centers around the notion of engagement denoting a particular attention to how visitors as resourceful individuals and groups invest their time, skill and knowledge in exhibition spaces. Some technologies and exhibition spaces are more successful than others in spurring this engagement. As proposed by Borgmann (1995), they do so not only by the wealth of their experiential properties but also by their depth and unfoldedness. Their qualities are revealed and unfolded as people invest their capacities in the situation. The traits of engaging interactive environments are obviously a complex intermix of exhibited artefacts, institutional practices, physical surroundings and social relations. Moreover, engagement fundamentally depends on what people bring to the situation. People invest their time and efforts in particular situations based on prior experiences, knowledge and personal preferences.

A argued by Czikzentmihalyi & Hermanson (1995) and Pierroux et al. (2007) a central issue for museums is to create potential links and intersections between interest and preferences reflected in the everyday life of visitors and the knowledge presented in museums. Such intersections may be part of creating depth (Borgmann 1995) in interactive environments and creating rich cultural heritage experiences that do not only provide factual information but “make works work” by transforming everyday understandings (Goodman 1985).

We propose that a theoretical understanding of engagement based on motivation and motives can be a valuable resource for interaction designers.

Motivation

In her theoretical account of engagement, Hedegaard (1995) distinguishes between motivation and motives. According to Hedegaard, motivation is the dynamics that characterizes a person’s actions and relationship to the surroundings in a particular situation. For the person, motivation characterizes the dynamic of her situated activities. When returning home from a visit at a World
War II memorial, we can be motivated to actively retrieve background information to know more about the events. However, the motivation as such is prompted by our recent experiences at the memorial and will almost inevitable decline unless we are re-engaged in other motivating situations. Hedegaard's notion of motivation is comparable to the situational interest described by Csikszentmihalyi & Hermanson (1995). However, visiting the World War II memorial as a descendant of veterans, with a master degree in history, or in some other way with underlying motives for engaging in the experience of the memorial, we would be able to get a more profound take-away from the experience. Motives are, in Cultural-Historical Theory terms, the goals, which characterize the actions of a person in different activities over an extended period of time (Hedegaard 2002). Hedegaard’s description of motives corresponds well to the individual interest as a relatively enduring preference for certain topics, subject areas, or activities as described in Csikszentmihalyi & Hermanson (1995). However, they diverge significantly as to the locus of motives. According to Fleer et al. (2009), human motives are developed through the person’s engagement in social institutions and thereby motives become strongly related to cultural values.

Motives are, according to Hedegaard (1995), structured in a hierarchy of leading, meaningful and stimulating motives. The leading motives of a child originate from the child’s central and important activities (Leontjev 1981). Fleer et al. (2009) identify several successive dominating motives in western societies: the motive of the infant is contact with caregivers. The toddler’s dominating motive is exploration of the surroundings. The preschool child’s main motive is play and during the first years of school, this motive is gradually replaced by the motive of learning. When the child reaches their teens, the leading motive is the acceptance from friends (Fleer et al. 2009) and “to become someone of consequence” (Hedegaard 2002). Leading motives are always meaningful, but a range of other meaningful motives can be present without being leading. As an example, teenagers will still have ‘learning’ and ‘play’ as meaningful motives, regardless that their leading motive is social acceptance. The ‘learning’ and ‘play’ motives are, however subordinated to the leading motive of social acceptance (Hedegaard & Chaklin, 2005). Finally, Hedegaard (1995) identifies stimulating motives as a third category of motives. Stimulating motives are a particular category of motives that in certain activities are meaningful motives. However, these motives loose their meaningfulness as they are introduced in another activity as an attempt to motivate this particular activity (Hedegaard 1995). When the museum offers distributed information on the teenagers cell phones (which is an artifact with strong relations to the social relations and thereby to the leading motive of teens) this in itself is an example of a stimulating motive.

Fleer et al. (2009) argue that human activity is always multiple motivated. A museum visitor might
go to the museum with the leading motive of exploring his cultural interest. However, when facing an intriguing exhibition, new motives can be appropriated through the involvement in the new aspect of the activity. With this theoretical conception of motives, Hedegaard & Chaklin (2005) argue that providers of scientific knowledge, such as museums, can mediate between everyday engagement (in the sense of motivation and motives) and scientific knowledge by consciously addressing the hierarchy of motives and especially the dominating motives. To sum up, we follow Csikszentmihalyi & Hermanson (1995) and Pierroux et al. (2007) in stating that it is vital for museums to create links between people’s everyday lives and the museum knowledge. Based on notions of motivation and motives, we propose to explore these intersections in terms of the double move (Hedegaard & Chaiklin 2005) supporting engaging experiences in cultural heritage. This conceptualization is a valuable resource for interaction designers in their efforts to understand and design engaging museums experiences. Through our work, we have begun to explore this potential through design experiments in schools (Stenild & Iversen, In Press) and cultural heritage museums (Dindler & Iversen, 2009).

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Dilemmas of self-assessment

In this presentation, I will describe dialectical processes in self-assessment. Dialectical processes are means to understand how subjects both live their life under certain conditions and at the same time change these conditions. The theoretical foundation is critical psychology which has developed its sense of dialectics from a Hegelian and Marxist philosophical tradition rooted in a critique of the Cartesian framework (Bernstein, 1971). Over the past decade, evaluation has become a big issue in the debate of the Danish school system. It is now required that teachers assess their pupils’ learning abilities. The practice of evaluation and assessment is very complex, and is often described as involving both social control and individual development (Borgnakke, 1996, Dahler-Larsen 2006).

From the theoretical perspective of critical psychology, I will describe dialectical processes in self-assessment. Self-assessment is defined by the fact that the subject assesses his or her own product; the pupil assesses his or her own skills by different methods, e.g. portfolio, log book, self-assessment questionnaires or evaluation-conversations. The explicated intention is to involve pupils in their own processes of learning and thereby to make the learning outcome more efficient. Self-assessment is one way to make the pupils responsible for their own learning processes although the aim with the learning outcome is defined for them. Thereby self-assessment merely could be understood as social control in disguise. This could be extracted from the following example about a girl in fourth grade (about 10 years old), who was doing well in school, but did not have any new goals for the next term. Her teacher then suggested a goal and the girl accepted it. When I interviewed the teacher afterwards, she said:

“It can’t be right that she doesn’t have a goal. We can always set up a goal for something. That’s how I see it. And when the girl says “I don’t have a goal” because she thinks that everything is going on really well [...] Then I talk with her and say “When you don’t think that you have any goal, couldn’t we say that you should participate more in science?” And mostly they agree, so it’s kind of putting words in their mouth, but they agree [...]”.

The teacher is who is acting under certain conditions. She is conditioned by the legislative standardized learning outcomes, and she wants her pupils to do well. Nevertheless, the example shows the teacher as imputing the girl certain aims which the girl had little influence on. As the example above indicates, the teacher then becomes a regulator of the pupil’s self-assessment. Teachers tend to act as regulators in situations where the pupil makes a self-assessment that does
not fit the teacher’s understanding of the pupil’s abilities. Does this mean that self-assessment is nothing but hidden social control of the pupils’ learning processes in order to make them more efficient? From a dialectical perspective, such a view will never fully capture the complexity of the subject’s learning potential.

Critical psychology mentions the subject’s ‘double possibility’: The subject can either live under certain conditions (and still be an active subject that make the most of its opportunities under the present circumstances) or extend his or her conditions. This implies further complexity and is therefore useful when we try to understand what happens in practice. Furthermore it is important to stress that subjects’ abilities cannot be understood individually, but as participants in social communities. In critical psychology, the concept of participation implicates that the subject is always taking part in something with other subjects, and that both the community constitute the context of action and thereby each other’s range of opportunities. Participation is a concept developed in order to grasp dialectical relations.

The following is an example from my data:

A boy in the fourth grade (about 10 years) has completed a self-assessment questionnaire. He was asked how well he was doing in Math, in English and so on. He responded with ‘ok’ and ‘not so good’. At the bottom of the questionnaire he added ‘swimming class’ and responded ‘very good’ to that.

This example demonstrates that the subject is not fully determined by their conditions, and that the subject can change conditions and make small displacements which, it is very important to investigate. This demonstrate the dialectic relation between subjects and conditions. There is no one-sided relationship between conditions and subjects. Subjects can through active participation in communities, transform the conditions. It is important to emphasize that this cannot be done alone. The success of the boys’ extension of the questionnaire depends on how the teacher responded to this change of the questionnaire. In this case, the teacher reported that she would add ‘swimming class’ to the questionnaire in the future. In this manner the boy expanded the local self-assessment practice and he changed the teacher’s view of him (she thought of the boy as more competent afterwards).

*Participation in self-assessment*

In a critical psychological understanding, the subject acts with their conditions, reproduce them and change them. The fact that subjects act with their conditions (Højholt, 2005) explains how conditions can be transgressed and that subjects can do surprising things to their conditions. The concept of ‘participation’ grasps lived life in and across various contexts. To understand the subject as a participant in different contexts means to understand the subject as someone who is talking part
in the context from his or her position. The individual is a member of social contexts of action (Dreier, 2002, p.63). The concept of ‘participation’ points to the subject’s functioning and development in situated social practice. Different things are at stake in different contexts, and the subject does not participate in the same way across contexts (Dreier, 1999 p. 78-79). This approach also demonstrates how subjects are often committed to other activities than those dictated by the context. Subjects are not always committed to competition and right and wrong, even though the situation is structured in that manner (Dreier, 1999 p. 80). An important task for qualitative research is to point to where subjects does something else than expected, where subjects participates in surprisingly ways.

References
Background

Norwegian children diagnosed with disabilities attend mainstream schools, only 0.5% attend special classes or special schools, which is among the lowest in Europe (1-2). Norway does have an overall intention of inclusiveness. But this also means that children diagnosed with disabilities often are representing the only one with a particular diagnosis, challenged by normativity in practices and participation.

Participation is being active in a particular context, but also the feeling of belonging and engagement is important (3). Participation is strongly including an understanding of being where things actually happens, with other kids (4). Children adjust to other children and sometimes use strategies to participate in play and moving around with other children (5) not being disabled. Being with other children and friendships are important to feeling happy (6). But the danger of being excluded, for example from peer groups is at risk when being a child with disability (7).

Aim of study

The aim of the study is to explore how children diagnosed with disabilities experience and express participation in their every day lives, especially focusing on the transition from primary to secondary school.

Research question:

• What do children diagnosed with disabilities experience and express about participation in their every day life, and how could we understand participation from the children's meaning and engagement in cultural practices?

Methods

Life mode interviews (8) have been conducted one to four times with each child, the first time at the end of primary school, at the beginning of secondary school and at the end of first year of secondary school. Life mode interviews are qualitative interviews where time and space are used as a starting point for getting information of every day life events and activities, based from the child's own understanding of the happenings around him or her (9-13). The interviewer asks about yesterday's happenings from getting out of bed in the morning, to falling asleep at night, for example what happened when you got out of bed yesterday, what did you do then? This is an interview form constructed in the understanding that children acquire skills and understanding of their life through
experiencing day to day interaction with others (8, 13). Data interpretation is inspired from philosophical hermeneutics, (14-17), defined as texts of the world and a process of understanding (16). Analysis is from hermeneutic inquiry understood as an overall process from creating an interview together with the child, then listening to and transcribing childrens voices to written texts. Then analysing written texts is following thematic analysis, first interpreting childrens selfunderstanding (18-19), then critical common sense understanding that goes beyond selfunderstanding, then adding theoretical understanding to the text (18).

**Theory**

Cultural historical theory offers a frame of reference to understand childrens engagement in cultural activities that makes meaning to the child within society. Personal meaning is subjective, but attached to human engagement, the reality of a specific world, with its motives (20). A premis in order to understand children is the cognisant of the social, cultural and historical practices in which they live and learn (21). From this theoretical frame of reference participation could be understood as meaningful activity or occupation because of the process of creating a social community with and for eachother representing both the characteristic and the general about human being (20, 22)

**Results**

Am I disabled? The boy stating this question has two diagnosis, he further says that those who are disabled are worse than him. Most children in this study says they do not consider themselves as being disabled, the term being strange, degrading or distant. But we also find doubleness to this expression from children who says they are not treated as disabled, but like the others. The children says that learning and making friends is the most important about school. But getting bad grades is not fun. Friends may grow away from you. Almost all the boys in this project says that playing football is the most important activity during brakes and almost all the children in the project has gymnastic classes as a favorite subject. But they also express what they can not do, for example they can not play real football. Hanging with is one of the girls favorite activities at the beginning of secondary schools, which requires social competence like small talk and being included in a group.

At leisure time being engaged with sports, work like selling tabloids or being with friends is important. Some children actively engage in for example wheelchair sports and have their best friends in this context, friends you can trust and who you have known for a long time. But children says being on two arenas takes too much time when you attend secondary school, you are doing too much and being too busy. The preference of local friends and activities could therefore be stronger if you succeed in this activities. What could I do instead? Not being treated like the others, not making good friendships, not getting average grades or not being able to make money could be an
exhausting experience. This question underlines the childrens active involvement in their own reality.

Discussion

Children’s self understanding of not being disabled should be understood from an existential perspective of everyday lives, involving questions of who I am and what can I do? But how you are treated from other children makes an extra awareness to the possibilities of being ordinary kids diagnosed with disabilities. Disability as a category and concept is therefore challenged by childrens existential perspective.

Childrens engagement is strongly connected to being able to succeed in meaningful cultural activities like making friends, getting average or good grades, having a job or leisure activities in their local environment. Not implementing such an understanding could undermine an understanding of cultural identity and subjectivity (23), which could be a danger to exploring children diagnosed with disabilities end engagement to every day practices and participation. The risk of exhaustion in doing too much must be considered, because children diagnosed with disabilities often spend a lot of time trying to balance between local activities and activities with friends sharing the same impairment or diagnosis. Knowledge of childrens engagement and meaning in culture must be identified, but also knowledge about the consequences of impairment is needed in order to understand important challenges to inclusion.

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354. What is the difference that makes a difference in preschool environments regarding language development?

Ditte Winther-Lindqvist

This qualitative study is part of a larger empirical study (LUDVI- learning and development in preschool settings). In this larger study 7 preschools have been selected as sample. They are all placed in the same provincial town, serve children of which 20% are from low socio-economic family backgrounds (the child is raised with divorced parents or with a single parent, also at least one of the parents have no further education than the obligatory 9 years of basic school in Denmark, and one in the household is unemployed/not in a job). These factors have proven to be consequential to the child’s language development thus more children from this background will need special pedagogical environments in order to reach age-average levels on language test scores. When some of the institutions despite this common condition among the children reach better scores – what general factors in the environment that they offer makes this difference? In line with a cultural historical activity theory approach human development takes place in the complex interplay between environmental affordances, constraints and possibilities and the particular child as participator (Hedegaard 2009, Bang 2009, Valsiner 1997). Advocating a wholeness approach to the developing child, both emotional, social, cognitive, motivational and physical conditions and their necessary interplay must be accounted for. The limited resources in time and money forces us to choose among these countless aspects and interrelations and focus only on those aspects regarded to be most crucial for the particular string of development that concern language acquisition in the preschool setting: Participating in dialogues (speaking, listening, understanding, and communicating), and their connected primary activities in daycare (playing, singing/rhyming, listening/telling, conversating). Both the socio-emotional environment among peers, and adults as well as the physical material environment serve as developmental affordance and activity settings that the child takes part in on a daily basis. Focusing on how the preschool go about their practice and daily routines (morning activities (free play or structured adult guided activities, eating lunch (together in small groups, in plenum or adhoc) all provide different opportunities for interaction and conversation. In order to produce a material suited for comparison the 7 preschools must be investigated around a similar nexus of interest. As is evident in the cultural historical activity approach especially interaction with more skilled adults or peers are taken to be driving forces for development. Therefore the time spent with adults and peers in social interaction is a chosen parameter for assessing the language learning environment. Also the kind of activity is important
(some games and activities involve more conversation, talking and listening than others). As the cultural historical activity theory suggests development is taking place in institutional practices with particular values and historical traditions that promote some activities and kinds of realtionships more than others (Hedegaard 2002). The declared pedagogical goals, self-understandings and common strategies decided among the professionals is thus also an important clue to looking into differences in the learning environments in the different preschools.

The ECERS rating scale (Harms et al 1998) suggests particular devices which has proven consequential to the richness of the environment as supporting language development. This scale is in important ways compatible with the Cultural Historical Activity Theory approach as it takes social interaction, activities and physical material into account when assesing tools for mediating and stimulating language. The ECERS suggests that the quality of play-materials, books, games, and fairytale toys/dressing up clothes, as well as varied play areas, suited for a variation of activities (reading, playing games, and sociodramatic playing, a theater stage, a quiet zone etc.) along with routine practises in adult structured activities are good indicators for the richness of the language learning environment: (Do the children sing and rhyme and play with words daily with adults? Are the children told stories every day and themselves encouraged to tell stories everyday? Do children play games with peers and adults everyday? Do the children engage in social interaction most of the day? Is the social environment characterised by dialogue between peers and adults, or are adults mostly making orders or scolding? The interview guides and observational protocols are Inspired by parameters suggested in the ECERS and on concepts from the Cultural Historical Activity Theory approach: social interaction, leading activities (play, games and conversations), as well as practices around the daily routines (is the lunch-break also used as an opportunity to talk to one another and tell stories?).

Procedure and research design

In order to minimize observer bias I am not aware of which of the 7 institutions who scored high or low on the language test. So when I am going to make observations and interviews I am not already expecting that the detected differences between the places have proven to be more/less effective.

The research design combines interviewing with participant observations of daily practices and general routines and documentation of the physical material environment in order to be able to investigate the possible reasons for the different test results in the preschools. 14 interviews (one interview with a qualified professional adult and the leader of each institution) provide the interview material, and one full-day participant observation in each of the preschools provide the observational material. Also documenting the cultural tools is part of the data-collection (noticing amount of, availability of and kind of books, games, dressing up clothes and other toys known to be
particularly stimulating for verbal dialogue and communication) as well as the physical
environment (is there a reading-corner, or area particularly suited for sitting down and reading in
peace and quiet, little tables for sitting playing games and having conversations etc.). These
materials and environments are documented with photographs and during observations it is noticed
how they are used in practice.

Interviews: The leaders are interviewed according to a semi-structured interview guide focusing on
the extent to which the house works within common pedagogical goals and commonly discussed
and decided procedures for structures and routines of pedagogical activities. Also the economical
situation of the preschool, its human ressources (amount of professionally trained pedagogues in
each unit, teacher/child ratio and resources for maintaining and improving play-areas and play-
material) is investigated. The clarity and content of pedagogical goals is also a topic covered in the
interview guide. The professionals are interviewed on a semi-structured guide focusing on the
extent to which the day is structured by adult guided activities, and daily/weekly routines around
activities found to be particularly stimulating for language development; reading aloud, initiating
conversations around a common theme among the children, time spent in various different
activities, and the professionals own opinion of her/his role, goals and most important tasks in
relation to the children.

Observations: Observations focus on the ways in which children and adults conduct everyday
activities and routines during a full day, and it is noticed how much and in what ways children
interact with peers, and adults and in what kinds of activities. Their making use of toys and other
cultural material is observed as well as the interaction style and dialogues is recorded using tape-
recorder and paper/pen.

The criteria for succes in this study is that this data collection and its analysis provides material that
makes it possible to assess those differences that makes a difference in everyday practices that can
explain why some of these preschools are able to break the pattern of the intergenerational
continuity in regards to language development.

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The Buskerud Child Welfare Project was initiated by the Norwegian state, entitled “An Alternative to the Imprisonment of Youth” (NOU 3: 1985, Waal & Helgeland, 1989), which was carried out during the years 1981 through 1984. The 85 youths who participated in the project represented the “most difficult youths” in a Norwegian county of average size at that time. These youths came from homes (most of them working class) where the level of family conflict was high, they were truant from school over longer periods of time, they abused drugs of various kinds, and they engaged in criminal activities and lived as vagabonds. The last follow-up study was done when the persons were around 30 years old. The objective of the study was to investigate how people with severe adjustment difficulties during their adolescence managed their lives up to the age of 30. Were there any critical conditions of events that enabled them to develop positively and adjust? These questions were investigated with both quantitative and qualitative methods and analyses. Helgeland’s research showed that as 30 year olds, 56 % of the 85 people who participated in the study were living socially adjusted lives, without using narcotics or engaging in criminal behavior. Two third of the 56 % group have income from work. Her findings also showed that 13 % (11) were deceased and that most of these deaths were due to taking overdoses or committing suicide. In addition, 19 % had continued to live lives since their adolescence that was characterized by drug abuse, criminal behavior and a vagabond existence. The final 12 % lived lives that can be characterized as having “one foot in each camp”. Logistic regression analysis was done, and gave indications for predictions:

1) To be a female in a selection like this, gives a much better chance to overcome problems than being a male. This comes as no surprise. Other studies also show that girls are less likely to continue to commit crimes or use drugs when they emerge from adolescence (Kyvsgaard, 1998). The qualitative analysis shows that getting pregnant, becoming a mother and keeping the child was a turning point for many women, which amongst other things challenged them to take responsibility for another person, and with the aid of child welfare services and social services, inspired them to live normal lives. These findings inspire to study how these now 40-year olds later have dealt with the motherhood, but also how the 40-year old males experience their fatherhood.

2) Participants who first started to have behavioral problems at school at the age of 14-15, were six times more likely to come onto a positive tack than participants whose behavioral problems started
under the age of 12. In other words, the study indicates that early onset of behavioral problems at school makes socialization more difficult than if behavioral problems appear at a later stage. This result is also not surprising (Patterson, Forgatch, Yourger, & Stoolmiller, 1998), but should have important implications for preventative social work in schools.

3) When it comes to type of child welfare initiative, the study shows that a period of 1-4 years spent living in specially funded foster-homes or treatment collectives, seems to give young drug abusers and juvenile delinquents the chance to re-socialization. This is a “new” and surprising result. One key factor in these initiatives appears to have been the provision of opportunities for the adolescents to form relationships with adults who were able to like them, to have patience to both stand out with their behavior over time, and to intervene, who lived the every-day life with them without rejecting them, and who did not give up the hope for a change for the better. In other words, they were adults who became significant others for them (Blumer, 1969/1986; Helgeland, 2007; Mead & Morris, 1934/1967).

Important knowledge and theoretical references in the new follow-up study are among others international life course studies that focuses upon different phases in the life of informants. Emmy Werner and Ruth Smith (Werner & Smith, 1982, 1992, 2001) have followed up a cohort of men and women from Hawaii until they reached 40 years of age. This study provides an interesting contribution. Amongst other things, they found an increase in the psychological difficulties of the 40 year old women they investigated who had a difficult family background. The increased problems occurred after they reached 30 years of age and may be connected to the alcohol abuse engaged in by their fathers when they themselves were children and adolescents. This phenomenon would be interesting to investigate in the relation to the 40-year old women in our study.

The criminologists Robert Sampson and John Laub (Sampson & Laub, 2003) have made a re-analyses of a follow-up study of young men who engaged in criminal activities in the Boston area of the USA in the 1930’s (Glueck & Glueck sample). In the last follow-up around 60 men were interviewed when they reached 70 years of age. One of their findings is that bonds and obligations to a family reduce criminal activity. Bonds to colleagues at work are also important for those who find a positive path to follow. These findings will be taken into account in our study of the 40-year olds. The concept of social participation will be considered as a process of negotiation and cooperation, from a socio-cultural learning perspective (Cole, 1996; Lave & Wenger, 2003; Mead & Morris, 1934/1967). This concept will be one of the important tools in the analyses of the study.

As their adult lives have progressed, we assume that some have established stable relationships, where the paths of their own lives have been entwined with the path in life of another. One transition in life is to be parent to babies. Helgeland found in her study that being pregnant and
parent could be a turning point for young women. We assume that some have experienced the break-up of an established relationship. How have such break-ups impacted their own paths in life? Other transitions include, for example, moving from being unemployed or a recipient of economic assistance to having a job or pursuing an education – or the reverse.
The theoretical setting of the core argument, which focuses on the investigative procedures from Chapters 5 and 6 of “Thinking and Speech” (1987) respectively, is identified by way of introduction to this paper. This contextualisation is considered a necessary precursor before juxtaposing the argument against the contemporary investigations and theoretical elaborations prompted by the 1950s “cognitive revolution” in Western psychology.

The status of the method of double or dual stimulation in concept formation studies is reviewed in relation to discussions in the introduction to Volume 1 of Vygotsky’s Collected Works (1987 pp. 17-36), and in similar vein by Kozulin (1990, p. 167) and Van der Veer & Valsiner, (1991, pp. 256-283). Possible re-conceptualisations of the apparent limitations of the blocks methodology are proposed.

Concerns regarding the “rather low level” of concepts presented in the Sakharov-Vygotsky blocks activity (cf Van der Veer & Valsiner, 1991, p. 269) are countered by the observation that this element is an essential, intentional design feature of the methodology which reduces the effects of prior experience, and which furthermore has important implications for future research initiatives.

Further to Vygotsky’s criticism of the study into artificial concepts (1987, pp. 228-229), recently published evidence (Zavershneva, 2010, p. 54) reveals several insights of Vygotsky in 1932 concerning the blocks studies. The importance of this new evidence is examined in relation to the subsequent course which Vygotskian psychological theory and empirical research took, leading ultimately to the study by Zhozefina Shif (commenced 1932).

In order to make for a thought-provoking setting for Vygotsky’s Chapter 6 discussion on Shif’s investigation into the development of scientific-academic concepts in the school-aged child, English translations by Kellogg (27-07-2010, pers. comm.) of “Thinking and Speech” by Sève (1997), and Meccaci (1990) are further augmented by citations from Minick’s (1987) translation.

Vygotsky’s argument commences with a view that studies into scientific-academic concept formation should provide a foundation for understandings of concept formation processes in general and should shed light on the differences between instruction and development.

The theoretical point of departure for this study is that although both word meanings and scientific-academic concepts develop, conclusions from studies of everyday concepts do not hold for scientific-academic concept formation processes: for this, experimental verification is necessary.
Specifically, a distinctive methodology comprising structurally isomorphic problems based on dimorphic material representative of scientific-academic and everyday concepts respectively was developed.

The paper reviews the attempts by Vygotsky and his colleagues to replicate Piaget’s work and suggests that existing methodologies of the Vygotsky Circle yielded to the more persuasive pressure of taking Piaget on by using his own methodology against him.

The paper goes on to discuss the limitations of the study into actual concepts admitted by Vygotsky, which have a bearing on any future research initiatives, then, and now.

In dealing with an issue related to the first limitation – the differentiation between scientific-academic and everyday concepts – and the perplexing problem for modern scholars as to what precisely Vygotsky means by “scientific”, the paper advises that this difficulty applies equally for the purposes of developing a research instrument based on a “scientific” activity of some kind. A synoptic consideration of various of Vygotsky’s references to both “scientific” and “everyday” leads one to consider that a systemic activity worthy of the Vygotskian rubric “scientific” would need, among others, to be:

• easily accessible to the majority of the population of one’s society;
• accessible to people of all walks of life and not restricted to a small group of experts (eg, molecular science); and
• a tool of widespread useability for people of a range of levels of experience, from novices to experts.

The paper suggests that whichever scientific activity is considered appropriate, Vygotskian theory dictates that it be systematic, hierarchical, consistent, logical, abstract/ed, and, above all, embedded as a practice in human socio-cultural, historically mediated activity. Taking these stipulations into consideration, the activity I believe most appropriate is the taxonomic classification of wild animals.

Concerning the second limitation of the study, a return to the beginning of Chapter 6 is suggested for an examination of Vygotsky’s treatise of the differences between scientific-academic and everyday forms of thinking, between the measures of generality and the structures of generalisation. Vygotsky explains the opposing movements to the general and the concrete of scientific-academic thinking compared to everyday representations, and that, with the introduction of systematic collaboration in the process of instruction, there is a concomitant ripening of psychological functions. It is this form of systemisation of the child’s thought processes, that takes place in the collaborative situation of instruction, which explains the precocious development of scientific concepts, and which, as they progress, leave behind “open ground”, a “zone of possibilities” where
everyday concepts can be refined by the systematicity gained from the maturing scientific concept. By delving into this question of how children deal with the apparently arbitrary way in which certain elements can be included in a “scientific” concept and others not, we find that Vygotsky makes the point that a preparatory interaction between the two forms of conceptual representation takes place at a particular developmental level within the same child.

It stands to reason, therefore, that scientific-academic concepts and everyday concepts would be put together using the same techniques – the concrete and the factual and not the abstract and the logical – however, actually how this takes place, whether one follows the other “like the shadow of an object”, remained largely unanswered.

By juxtaposing certain points of Vygotsky’s argument from parts of Chapter 6, this paper draws a clear link between questions raised at the introduction to Shif’s work and those which discuss the limitations of that work: the intention is not to suggest inconsistencies in Vygotsky’s argument on this issue nor to be caught up by a naïve interpretation of “immanent critique”. What Vygotsky is asking in his introduction to Shif’s study has a bearing on the second limitation he discusses of the study, as Kellogg (27-07-2010 pers. comm.) notes: whether the concept is restructured by the child exactly as it appears in the teaching/learning process or if it is restructured in some significant way other than this. Kellogg suggests that if one has paid attention in Chapter 5 then the answer is rather clear…

The paper now poses a question concerning the matter of evidence:
Where are the studies which show complexitive forms of generalisation interacting with the measures of generality characteristic of scientific or academic knowledge systems?

In this respect, paper draws in the third and final limitation of the Shif study which very clearly states that what was left unexplored in this research is how the extrasystemic and nonvolitional nature of everyday concepts meets with and interacts with the emerging system of concepts.

The remedy to this situation, says Vygotsky, is a separate study.

In light of the considerations presented here (obviously in brief and obviously argued for elsewhere in the depth which space and time here preclude), this paper make the following proposal: because studies with the blocks of Sakharov and Vygotsky illustrate these extrasystemic, non-volitional structures of generality so well, it seems plausible that to find out how these structures interact with the emerging system of concepts, a specifically, uniquely Vygotskian research instrument be developed, comprising a range of several activities isomorphic to the blocks activity but which have each been adapted in a unique, step-wise manner with the intention, inter alia, of presenting subjects with:

• a situation specifically designed to engender the formation of new concepts to allow for
microgenetic analyses of the structures of generalisation that school-aged subjects employ in interaction with prior experience in forms of everyday conceptual representations as well as those embedded in the measures of generality of the scientific activity of the taxonomic classification of wild animals;

• several more research activities, isomorphic to that described immediately above, but relating to the effect of imaginative forms of expression and creativity, as well as of a more emotionally engaging experience on these structures of generalisation of subjects in interaction with the form and content of cultural-historical knowledge in the scientific system of taxonomy;

• consecutive research activities to explore subjects’ application of learning/learned experience from one activity to another in order to bring to light the application of prior experience in how experiences are abstracted from one activity and generalised to the next, and which relate also to the interaction between subjects’ structures of generalisation and their uptake of cultural-historical knowledge in everyday and scientific-academic forms of societal knowledge in the scientific systematisation of taxonomy; and which demonstrates that

• exposure to these research situations so structured leads to preconceptual thinking of school-aged subjects being invoked earlier on and rising more steeply chronologically than control groups, as well as the emergence earlier of correspondingly logical, hierarchical, and consistently structured reasoning strategies more akin to truly logical abstract reasoning typical of true conceptual representation.

Before concluding, the presentation may provide examples illustrative of the activities so structured for this research instrument, and possibly illustrate some of the early results.
It has been maintained that modern knowledge society requires new kinds of “epistemic practices” in distinction to rule-based routines as a basis for practices (Knorr-Cetina 2001). On the other hand, digital technology puts a new challenge to basic conceptions concerning mediated activity (see Rückriem 2010). These changes have clear implications also to technology mediated collaborative learning. In this paper we will analyze one course example implemented in higher education focusing on learning skills needed in modern project work. Technology was provided by a project aiming to develop digital tools for enhancing collaboration on knowledge artefacts and practices (i.e. “trialogical activities” besides meaning making activities – see Paavola & Hakkarainen 2009).

The course in question emphasizes the development of working concepts for real customers as a learning task. The pedagogical rationale of this kind of a setting is justified given the epistemic, social and pragmatic challenges that professionals working in new product development projects face nowadays. A particular interest was on advanced functionalities provided by the networked technology and how it can be used pedagogically to facilitate the learning of project based working practices. A distinction of diverse orientations of instrument mediated activity is used as an analytic framework in analyzing the pedagogical use of technology (Rabardel & Bourmaud, 2003). We place particular value on learners’ joint work on the development of shared artifacts meant for real use as a productive learning context for which technology should be harnessed. We also aimed to track how the use of graphically organizable virtual environment mediated epistemic practices characterizing the project based working setting in followed teams.

Participants and the setting

The investigated course involved students and academic staff in the University of Helsinki, Aalto University and School of Economics and lasted about three months (from March to May 2010). The course was optional and was taken by 4th year students from several different disciplines. About 30 students took part in these courses where they were all engaged in different projects for a single customer, the Finnish Tax Administration. The pedagogical model of the course was partially based on the virtual project learning and research – and learning by doing frameworks. These frameworks aim at simulating organizational and team activities (e.g. management of a subcontracting network, team building, division of roles and responsibilities, use of collaboration technology). The course
was introduced to students as offering a practical way of learning project management and project work that takes place in a distributed and networked environment.

A virtual collaboration tool called Knowledge Practice Environment (KPE) developed in Knowledge Practice Laboratory Project (www.kp-lab.org) was used as virtual environment of the course. KPE has been designed to support collaborative knowledge creation (or “trialogical work” on shared objects). It provides various “object-centered” tools and functionalities, such as planning the process, producing texts and notes, organizing groups of people around knowledge objects as well as reflecting the processes. In this course, the working space was structured around the tasks which were named according to the four phases of the project work, “defining”, “planning”, “executing”, and “delivering”. The materials provided in the space were linked to the tasks related to each of these functions.

In this paper we report activities mainly in one team. It consisted of 5 students, four Economist trainees and one Psychologist trainee. The task of this team was on the development of a survey method for collecting data about initial attitudes towards tax-paying.

**Method**

Data collected included the participants' answers to reflective questions, the content items created by the team members to the networked environment, and a team interview. A qualitative content analysis of the content items created by the team was conducted to find out what kind of functions these items served in the working processes. The participants' answers to the reflective questions, as well as the interview data were analyzed to track the participant's motives and goals behind their activities in virtual space.

**Findings**

The participants stated in their reflections that they participated to the course to learn more about virtual project management methods and get experiences about project based working practices. The investigated team was especially active user of the virtual environment, partially also because they supposed that the degree of their activity will affect their course credit. Thus both real learning motivation and external motivation was found to drive the team members' activities.

At the early stage of the course the members of the team brainstormed about their initial working ideas using the KPE note editor. They also created a chatting site and used it systematically in negotiating and sharing operative information throughout the course. The team members informed each others about their recent activities in the virtual environment by chatting and made suggestions how to proceed in working on the joint project.

Team members organized the content items that they created in the virtual environment into differently related groups by using visual link items that can be labeled semantically in KPE. Such
items as the notes with listed responsibilities and external knowledge resources and working
documents were linked according to the course week, during which they were created while for
instance The intensiveness of the virtual team work was at its highest during the 2nd, 4th, 5th and
6th weeks. During these weeks the team members reviewed literature by using separate notes,
uploaded external knowledge resources and created their first working documents as outcomes of
the joint knowledge creation activities. During the 7th, 8th, 9th and 10th weeks, efforts of the team
were largely directed at the elaboration and versioning of the report document in which the concept
created by the team was presented in its final form.
The team member who each week played the role of a project manager listed tasks and
responsibilities for the week in a separate note by using the note-editor. The team implemented the
note-editor also in conducting the “Scrum-follow up”. This meant that each team member answered
such questions as “What have you done since last scrum?”, “What are you planning to do until next
scrum?”, and “Do you have any problems preventing you from accomplishing your goal?“ on a
weekly basis in the same note as the one created by the project manager in charge.
The all Scrum-follow up-notes were linked together according to the function they performed in the
working process.

Discussion
The findings of the study indicate that the tool mediation that the participant implemented can be
analyzed by using the categorization of the four diverse types of the orientation of instrumental
mediation. Thus for instance the use of note editor in brainstorming and reviewing literature and
uploading external knowledge resources and linking these content items can be seen examples of
epistemic mediation afforded by the technology. Chatting served social mediation while assigning
operative responsibilities in notes pragmatically mediated the coordination of join activities. Finally
reflective mediation of the team activities was realized in the use of notes in conducting Scrum-
follow up. The participants found then unexpected ways of using functionalities of the virtual
environment to those purposes which were in themselves meant to be supported by the technology.
The participants came up with their own solutions in using the networked technology in
aforementioned ways. The realized tool mediation can be also considered to have promoted the
establishment and acquisition of project based epistemic practices in the followed team. The
solutions implemented in the team demonstrate how the KPE-functionalities and the tool mediation
that they afford can serve the externalization of epistemic practices in virtual artifacts. These
artifacts once created to mediate epistemic, social, pragmatic and reflective sub-processes in project
work can also serve as external organizers scaffolding students’ collaboration.
References
Introduction

In recent years many research have explored in the field of learning theory peer collaboration and collaborative learning (e.g. Dillenbourg 1999; Littleton & Miell 2004; Moran & John-Steiner 2004; Rogoff 1998). These studies have indicated that collaborative learning is an effective and profound process of learning. Recently the research of collaborative learning has shifted from the outcomes and products of collaborative learning towards the analysis of collaborative interactions (Littleton & Miell 2004). Research suggests, that collaborative learning is quite challenging process for school children. Despite favourable conditions and efforts many children fail to learn collaboratively (Dillenbourg 1999). As a result, some researchers state that collaborative learning is not possible for small children. However, others are certain that small children learn collaboratively for example in play (Azmitia 1998; Crook 1998; Verba 1994; Williams 2001).

So far the scarce research of children’s collaborative learning in day care settings has focused mainly on organized problem-solving task groups (e.g. Rojas-Drummond, Mercer & Dabrowski 2001). Informally formed social groups and the social processes occurring in these groups have not been in the focus of research (Sawyer 2001). There are only a few studies concerning children’s collaboration during free play situations (e.g. Verba 1994). In addition, the early development of collaborative learning skills is not yet fully understood. Yet so far there is not much information on the collaborative abilities of small children and the relation between collaborative learning and play. (Ding & Flynn 2000).

The main problem in the research of young children’s collaborative learning is that the current definitions of collaborative learning are designed for formal learning situations and outcomes (in schools). There is no specific definition that could be used as an analytical tool in the analysis of children’s collaboration. Furthermore, if we believe the learning is socially constructed, situated and occurring as a result of participation in different activities, we should emphasize more the social outcomes of collaborative learning in addition to cognitive ones.

Aims

The aim of this study was to examine the collaborative processes and interaction of small children in the context of free play. In this presentation the focus will be on defining analytical frame for children’s collaborative learning and describing process and outcomes of the collaborative learning of children in day care setting.
Participants and data collection

A total of 41 three-to-six year-old children from one ordinary Finnish day care centre participated in this ethnographic study. The participants of this study were children of two child groups, one of 3-to-5-year-olds and one of 6-year-olds. Children were observed an eleven month period from August to June in 2002-2003.

Observation focused on the peer relationships, dynamics, social and cognitive processes and interactions of the children during free play situations. Observation included mainly pen-paper-observations and video recordings. In addition to pen-paper-observations and video recordings some children’s free play situations were captured by regular tape recorder.

Children were observed approximately one week in each month. The purpose of this kind of data collection method was to identify developmental progress and learning in children. Observation time varied based on the content and development of play from one minute to twenty minutes.

Data analysis

In the beginning of analysis all children’s dialogues from the whole data (videotapes, tape recordings and pen-paper-observations) were first transcribed. There were approximately 400 pages of transcribed material. These data were analyzed to identify episodes of children’s spontaneous learning (for example constructing joint, new knowledge), social patterns of interaction and the children’s use of communicative and social tools (for example negotiations). Videotaped material (approximately 11 hours) was watched repeatedly alongside with the transcribed notes to explore the contextual features of children’s interactions. In this phase contextual information was written down and added to transcribed notes. Then analysis proceeded to categorization of the whole data. Categories were both inductive and deductive. Each category was analyzed and subcategories were formed. Children’s collaborative learning was first analysed utilizing as analytical tool a model based on Engeström’s (1987) model of activity system, and after that these situations were also analysed with discourse analysis.

Results

Results indicate that spontaneous collaborative learning occurred in the day care centre, and that the children made frequent efforts at collaboration. In both groups the children were freely allowed to construct and determine their actions and interactions with their peers during free activity sessions. The results show that the children collaborated frequently during free activities. The duration of collaboration varied from short collaborative efforts to intensive and productive co-construction of shared meanings, learning and play.

Collaborative learning manifested itself in children’s interaction in cognitive initiatives (constructing meanings and shared knowledge), controlling the activity (e.g. promoting the activity,
discussing the rules of the activity, resolving conflicts and giving advice), and social relationships (e.g. friendships, seeking attention, collaboration, and helping). Collaborative learning resulted in the learning of social skills, collaboration skills, skills of constructing meanings, argumentation skills and skills of constructing joint activity. Joint construction of knowledge occurred in a few situations. Thus, young children seem to focus mainly on learning to collaborate and only to lesser extent on collaborating to learn.

Children’s ability to collaborate evolved throughout the year. Of especial importance for the occurrence of collaboration were friendships, sense of community or togetherness, motivation to collaborate, and social, communicational and interpersonal skills. Collaboration necessitates that learners are prepared to negotiate a common goal and a shared reference of meaning. However, competition and inequality between learners can be hindrances to collaborative learning. Six-year-old boys were particularly reluctant to admit that they had received help from their friends, and they emphasized their own abilities and skills in different activities. Also, deficiencies in social and communicational skills, conflicts and the authoritative role of teachers inhibited collaborative learning in this study.

Implications for theory and educational context

Apart from supporting children’s free play by giving plenty of time for it, the teachers did not specifically support or encourage children to work together. The use of group process methods in learning was also quite rare. However, the results of this study suggest that even young children engage spontaneously in collaborative interactions during free play. Collaborative learning can be found also in young children’s interactions. Children’s social skills and friendships seemed to be the main factors in promoting the occurrence and quality of collaboration. Also it seems to be important to create rich play contexts where children can develop their play and collaboration skills. The exploration of the social aspects of collaboration is relevant in gaining further understanding the development and processes of collaborative learning. These results on can be utilized as a pedagogical tool in day care centres. This study also contributes by adding knowledge about phenomena which have been little researched among young children.
Ongoing success in science learning requires building on representations and associated practices which students are presumed to have learned throughout their schooling career. Without these practices, students have difficulty learning new representational forms as well as new scientific concepts which rely on representations. It is therefore crucial that students begin learning to effectively use scientific representations as early kindergarten, when they first enter school (5 years old). Furthermore, while young students typically have a great deal of experience representing their ideas through drawing before entering school, this experience does not always translate well to creating science representations. Kindergartners often omit important details from their drawings (Tversky, Kugelmass, & Winter, 1991), include details in ways that are unclear to others (Willats, 2005), or inadvertently apply rules that are appropriate when drawing for fun but not for science (diSessa, 2004).

As students progress through school, their in- and out-of-school experiences help to shape the way that they engage with representations (Sherin, 2000). Thus, it behooves us to first understand the origins of students’ engagement with representations early in their school careers and how this is influenced by their local context. This kind of genetic account (Wertsch, 1981) can then help us understand the representational practices of students of all ages, and the process through which they develop. To understand this intersection between students’ representational actions and their local context, it behooves us to examine representations as a form of social practice or activity (Danish & Enyedy, 2007; Hall, 1996; Roth & McGinn, 1998). In the proposed paper, I suggest an analytical framework, the Primary Interactive Pathway (PIP), as an approach to examining and comparing different activity contexts in terms of their role in shaping students’ engagement with representations. I then present empirical data regarding the role of activity contexts in shaping how kindergarten and first grade students engage with representations.

**Activity Theory and the Expanded Mediational Triangle**

I have chosen to ground my examination of students’ representational actions in activity theory (Cole, 1996; Engeström, 1987) because of its utility in analyzing the influence of contextual factors upon students’ representational actions. Activity theory identifies joint, mediated, object-oriented activity as the central unit of analysis for human activity. In particular, I will make use of the expanded mediational triangle (Engeström, 1987) as a tool for examining students’ activities. The
The expanded mediational triangle depicts the key mediators of collective activity, as well as their relationships, specifically the fact that they are all connected.

At the top of the triangle we see the original mediational triangle that Vygotsky used to describe mediated action by an individual subject (M. Cole, 1996; Cole & Engeström, 1993). This triangle depicts the fact that the subject, which in the present study will represent a student, is engaged in some object of activity with the use of artifacts. The subject has access to the object both directly and indirectly via the artifacts. For example, if a student in the current study is creating a drawing using a pencil, they are using the pencil to add to it, but can also see the drawing directly as they continue to draw it. This also highlights the fact that each connection in the triangle examines the flow of mediation in two directions, not just originating from the subject. Returning to our example, as a student creates the drawing, they are in turn influenced by what they see on the paper, including potential new relationships between features which may not have been apparent to them before placing them on the paper. In fact, the subject and object both change over time as the subject engages with the object and their conception of it is refined by experience (Cole & Engeström, 1993).

The bottom half of the triangle adds the community of people who have a shared object with the subject to Vygotsky’s triangle. In the current study, this will most frequently represent the other students in the classroom. Finally, the rules and division of labor represent other mediators which help to determine the relationship between the subject, object, and community. For example, in the current study there was sometimes a rule that students need to ask their peers about the drawing they were creating. In those cases, the rule was dictating the interaction between the subject and the community, while the division of labor explains the different roles: one student asks the question, and the other offers an opinion.

**Data sources, evidence, objects or materials**

The present data comes from a participant observation of a 19-session (10-week) curriculum intervention to teach students about how honeybees collect nectar. The intervention took place with two mixed-age kindergarten and first grade classrooms in a progressive California elementary school. There were 42 students who consented to participate in the study (22 boys, 20 girls). The students were organized into groups of 5 students, and rotated between through a variety of representational activities as they learned about honeybees collecting nectar.

The current paper examines the differences between students engaging in individual creation of representations, participatory models, and participatory simulations. Individual creation of representations refers to an activity, typical of kindergarten and first grade classrooms, in which students created individual drawings, sculptures, or collages while sitting at a table surrounded by
peers with whom they were allowed to discuss their work. Participatory modeling is an activity in which students worked collectively to use act out a model of the honeybees—essentially a short skit focused on conveying science content. Participatory simulation Colella, 2000) refers to a game-like activity in which the students played the role of honeybees that had to convey the location of nectar (small corks hidden around the schoolyard) to their peers as a way of experiencing the challenges that bees face.

Methods

Students’ interactions as they created representations in each activity were observed and analyzed to identify patterns in the relationship between the activity context, and students’ discourse about their representations. Activity triangles were created to document the general pattern of activity, and the triangles were then modified as required by additional observation of the video record. Procedures borrowed from discourse analysis (Erickson, 2004) were then used to examine the relationship between the students, the representation they were creating, and the community within each activity.

In pursuit of an effective analytical tool, I developed the Primary Interactive Pathway (PIP) to identify students’ relationship with the representation which they were creating. The PIP serves not only to highlight the role of the representation, but also to document the interaction that was most visible in the video record. Ultimately, the PIP was a useful analytic framework for comparing activity contexts. For example, the PIP for creating individual representations (shown by the bolded line in shows that students primarily worked with pencil and paper to create their drawing, only interacting occasionally with their peers. In contrast, the PIP for participatory modeling reveals that the organization of the activity required the students to engage with their community as they were co-constructing a skit. Finally, patterns in how the PIP shifted the focus of students’ talk as a proxy for their engagement with their representations were documented and are presented below. In particular, I identify whether students discussed what features the representation needed to include, how those features should be represented, or why the representations should either be included (or included in a particular way). The discussions of what, how, and why to create representations in particular ways suggest increasing levels of sophistication in the students’ co-constructed analysis and critique of each other’s representations.

Discussion

Student dialogue varied from a focus primarily upon “what” to represent during individual creation of representations to the inclusion of “how” and “why” during participatory modeling and participatory simulation. The final paper will detail these patterns more fully and will include examples of student interactions which illustrate the role of the activity context in shaping students’
discourse about what needed to be represented. For example, students’ focus on the list of bee parts to include in their drawings, and the need to complete individual drawings, often resulted in only brief exchanges that consisted of reminding each other to include those features—the “what” conversations.
Occasionally, though, communicative breakdowns would occur, briefly moving interaction with the community to a more central role. This shift during communication breakdowns confirms the role of the PIP in identifying clear patterns in interaction. In this particular example, the confusion which resulted from shifts in the activity system appears to have lead to results similar to the other activity systems.

The findings in this paper contribute two important advances to the study of students’ representational activities in science classrooms, and the way that Activity Theory can support these studies. First, the PIP, coupled with discourse analysis, has proven a useful framework for using the expanded mediational triangle to compare and contrast diverse representational activities in terms of how they shape students’ participation. Second, the data presented in this paper contributes to the body of knowledge regarding how our youngest students engage with representations.
371. Mediating communities in social inclusion interventions: learning in transition and the
restructuring of self & identity

Miyazaki Takashi - McClinagh Pauline - Otaka Kendo - Sugiyama Shimpei

Strand 1

In order to study restructuring processes of self in transition, transition needs to be understood as the transformation of the world of self. People’s worlds consist of plural communities and their world changes fundamentally when the lead community changes, for example, from school to the workplace. Drawing upon Bateson, Lain, Engeström, Beach and Bourdieu the author argues that community boundary crossings involve synchronic and diachronic transitions. Where a person’s world involves fragmented communities, a crisis of self ensues, creating problems for both synchronic and diachronic transitions. Unlike more traditional clinical interventions based on the individualistic model, the author argues for a collaborative mediating community approach aimed at re-integrating the individual’s communities and at restructuring the sense of self. A series of examples of such an approach are then described in the paper sections that follow.

Strand 2

The second strand addresses the transition experiences of young people from school to work in Japan and examines the boundaries between in-school communities and how these influence and impact on young people’s sense of self and identity. It is hypothesised that any educational site has two dimensions that, in part at least, correspond to the distinction between formal education and informal learning. These two dimensions can be defined as the ‘institutional community’ and the ‘generative community’. The institutional community reflects and is structured by the imperatives dictated by the state and the economic systems – the national curriculum, measured learning outcomes, assessment procedures, qualifications, the demands of the labour market etc. The essential characterises of a generative community, on the other hand, are that it provides a place of safety and security, that it promotes and supports sociality, dialogue and self-reflection, that it is based on shared and negotiated meanings arrived at through collaborative activity and that it supports positive self-concepts and identities. Interventions that strengthen a generative mediating community within schools can assist young people in coping with difficulties associated with the internalisation of poor, conflicting or fragmented images of self affecting their learning and their capacity to accomplish successful restructuring of self in transition situations and processes. In practice on any given educational site there will be conflict between institutional and generative communities impacting on learning outcomes and resolving this conflict requires re-defining the
boundaries between these different communities.

**Strand 3**

The third strand draws upon research evidence derived from a series of social interventions in Northern Ireland aimed at addressing the learning needs of disadvantaged or otherwise vulnerable people - a parenting education intervention aimed at improving development and learning outcomes among children; a health education intervention aimed at reducing inequalities in health in two very disadvantaged communities; and workplace essential skills programmes targeted at unskilled and unqualified workers brokered by a local chamber of commerce and offered in workplace settings.

What these cases have in common is (1) a focus on community as the object, method and context of practice; (2) an understanding of learning as social, situated and embedded in specific contexts and practices and as the outcome of purposive activity; and (3) learning, arising as a deliberate and/or incidental by-product of the joint engagement of different sets of social actors in goal orientated collaborative activities, supporting innovation and change. Evidence is looked for of shifting identities, the emergence of new more positive personal identifications, successful transition experiences and the opening up of dialogical spaces for less powerful voices as new possibilities for social innovation emerge where different activity systems meet.

**Strand 4**

The fourth and final strand addresses issues related to identity formation and learning and social innovation and change raised by the activities of social enterprises which have as their object interventions aimed at addressing the learning needs of marginalised and disadvantaged communities and social groups. It looks particularly at the ‘affordances’ for learning arising in hybrid contexts where different practice communities representing different poles of the economy and different social fields – economic, professional, institutional and civic - are brought together in the pursuit of common goals, and the sometimes dynamic and expansive nature of these affordances at practice boundaries and in transitional settings. The strand draws upon research evidence derived from practice examples in Ireland and Japan.

Drawing on the empirical evidence derived from the previous examples the final section of the paper draws together and summarises the paper’s main arguments and findings.
Introduction

This paper aims to contribute to the understanding of how particular pedagogical models mediate the development of resilience in Pre-school Children. The study presented here (Folque, 2008) attempted to identify how the Movimento da Escola Moderna (MEM) model for pre-school education works in practice, and how it supports (or constrained) effective learning processes associated with ‘learning to learn’. Pedagogical models act as cultural tools. This study looked at resilience as a learning disposition at the core of effective learning (Claxton, 1999; Dweck, 2000). Resilience, rather than being a fixed trait, is a disposition that can be developed through educational practices (Henderson and Milstein, 1996; Dweck, 2000; Watkins, Lodge and Best, 2000).

Theoretical framework

Socio-cultural theory views human action as mediated action through the use of artefacts/tools (Vygotsky, 1978; Wertsch, 1998), changing individual consciousness and the way in which we act on the world. Material tools, as well as psychological ones, have objective properties as well as perceived properties and potential for goals achievement (Wertsch, 1998; Claxton, 2002). Drawing from literature on communities of practice, the classrooms social structures (roles, rules, division of labour, and access to resources) are key elements shaping the processes of learning (Lave and Wenger, 1991). Learning is conceptualised as change in participation in social practices.

A key trait of resilient learners is their orientation to learning: either being learning oriented or performance oriented. Resilient students are the ones who find the appropriate resources or help (in themselves and/or in their environment) to carry out learning challenges – resourcefulness and are more concerned with processes of learning than to prove their ability or performance.

Resilience is a dynamic process varying through time and across situations (Rutter, 1990; Carr, 2001b; Cefai, 2004). Although children might predominantly display one type of disposition towards learning, Carr (2001b) has shown that the same children exhibit different orientations towards learning associated with different social identities displayed during different activities in pre-school. This is an important point as it states that particular ways of thinking as well as particular ways of relating to learning are not only stable individual traits but are activated in contexts of different activities as well as different relational contexts.
Methodology

This research is part of extended study based on 2 pre-school classrooms applying the MEM model. The design used case-studies with ethnographic elements, over a period of 8 months to study in depth the processes of learning young children and their displayed resilience in classrooms. Data was collected through observations, video recording, interviews to the teachers and children and the analysis of piloting tools and triangulated. The analysis combined a theoretically driven framework with grounded analysis.

Results

Investigating how children in each classroom constructed their learning identities and set their learning orientation presented a complex picture. Very young children were observed learning to face problems and criticism, using it as a way to improve, while other children displayed helpless attitudes and lack of belief in their own ability to overcome problems, and others were overly concerned with getting it right (performance-orientated) instead of focusing on the processes (learning-oriented).

Key elements of the MEM pedagogy were associated with environments that promote resilience. First, creating classroom communities where children feel valued and supported in taking risks and stretching their learning power. Second, focusing on education and learning through working or engaging in inquiry and productions (rather than entertaining activities or care), providing an emphasis on effort and motivation to produce, learn and overcome problems together. The curriculum based on the children’s interests and experiences provided a meaningful context where effort was bound up with motivation; Third, engaging children in decision making and negotiating their learning paths, supported by the MEM model ‘piloting tools’, promoted both agency and responsibility, which are important components of an environment, which promote resilience (Claxton, 1999; Carr, 2001a).

The focus on products rather than processes has been identified as promoting children’s performance oriented attitudes towards learning (Claxton, 1999). In both classrooms, there were plenty opportunities for talking and discussing the relationship between products and processes. In Communication Time where children’s products were presented, children learned about the processes (actions, use of material and human resources, intentions, purposes, problems) involved in reaching the final product (goal) instead of proceeding to the evaluation of a product as the sole outcome of ‘getting it right’. These sustained dialogues, which sometimes involved extending or developing the product further, were important sources of knowledge about how to stretch learning for the group. Yet, there were situations when the focus on products overcame the attention on processes: in the Amoreira classroom, Carolina especially praised the ‘amount’ of work in different
areas of the classroom, and in the Magnólia classroom the high standards of aesthetic and intellectual quality of the ‘oeuvres’ became the main goal for Patrícia.

Research has revealed how a clear understanding and negotiation of rules and a common set of social norms promotes resilience in students (Henderson and Milstein, 1996; Watkins, 2005b). In MEM classrooms these norms and rules are publicly shared and constructed with the children, particularly during Council Meetings, where children learn what to expect and what others expect from them. This study showed that discussions about rules should not be used as a means to judge the children’s personal worth (being good or being a friend) but should concentrate on why certain behaviour are manifested and offer a supportive forum in which ways of improving could be identified. Such distinction is crucial in preventing children’s performance attitudes and helpless behaviours (Claxton, 1999; Dweck, 2000).

Another key factor in promoting resilience was the way in which problems were dealt with in the classroom. At Amoreira, the problems children encountered or that the teacher pointed out, constituted opportunities for learning with the support of the teacher and the group. The teacher understood the role of assessment in promoting learning ‘we criticise to improve’ and the children saw the CM as the forum ‘to solve problems’. Problems were explored through different perspectives such as intentions, lack of resources, quality of support, attention, effort, which the children came to understand and jointly tried to overcome. At Magnólia, problems were sometimes seen as signs of misbehaviour, lack of friendship, or lack of ability to think, and little attention and time was given to scaffold children in overcoming their difficulties. Restating rules and pointing out failures did not support children’s problem solving.

The teachers’ use of questions and feedback are referred to in the literature as important pedagogic tools for assessment for learning (James et al., 2006). This study revealed that the use of questions sometimes led to a child’s sense of failure and performance attitudes. This happened when the questions were too challenging and beyond the child’s understanding. On these occasions the children felt inadequate and lacking in intellectual ability. When the teacher asked seemingly open questions but had a particular answer in mind, the children were trying to guess what the teacher wanted (rather than thinking freely) and adopted performance attitudes trying to get it right.

The feedback both teachers used in their interactions with the children was mainly task-related, and descriptive, offering children tools for improvement. In the Magnólia classroom, the occasional use of personal oriented feedback and evaluative judgments centred on the children’s personal traits (laziness, children’s ability or willingness to think, to cooperate or to be kind to others), seemed to damage some children’s self-confidence as learners and colleagues, as well as leading to the display of helpless attitudes.
One particular feature of the feedback was the teacher’s tone of voice and volume. Carolina adopted a more neutral tone when giving criticism or praise. Patricia used a louder voice and more judgemental tone and, at times, this led to her task-related feedback being received by the children as personal criticism leading some children to seek her approval or acceptance, and to fear that she would not accept their work. This occurred particularly when children misbehaved and when they failed to respond to the high standards that were set for the quality of the products or thinking.

This study results would suggest that the MEM organizational structure was not enough to ensure that children built up epistemic identities that would empower them for learning. The way in which the teachers and the children used the piloting tools, the structure, content and affective tone of the interactions were seen to have a significant impact on the realisation of a true enabling community of learning. Moving away the focus from encouraging the children to simply ‘be good’ or show special skills or intelligence, and directing towards processes for improving, and solving problems in a challenging but supportive environment. Teaching approaches, the quality of feedback and questions, and the way teachers involved the children in interacting with each other are key factors in building-up a community of learning.

The study also indicated that there were institutional factors (structural; the institutions’ reified practices and culture; the institutional ethos; the staff development systems) impacting on the pedagogies of each classroom.
Nowadays we are assisting to a progressive “privatization” of infancy: even though people regularly talk and write about children, our cities are often defective of the possibility for children to meet adults and peers and to be listened by them. It often happens that adults tend to build cultural and social boundaries that are quite rigid and do not facilitate the “permeability” between different life contexts. The consequence is that infancy seems to acquire a certain “invisibility” within a world that is thought and constructed by adults to adults.

In January 2010, moving from its history of engagement and pedagogical research, the Provincial Federation of Pre-schools of Trento (Italy) decided to create new opportunities to receive and appreciate children’s voice, trying to understand how that voice enter activities, actions and practices that characterize the pre-school, but also how that voice is able to “contaminate” the countries where children live.

We proposed to the 140 federated schools a cultural project oriented to promote a new citizenship for girls and boys aged between 3 and 5 years. The project “Small guides for great discoveries” aimed at eliciting children’s thought and talks, in order to construct an authentic dialogue between state institutions from one hand and children, schools, teachers and families from the other hand.

The main intent was to involve several groups, belonging to different pre-schools, into the exploration of their environment, throughout the creation of small guides concerning the territory of Trento province: children were invited to talk, draw and symbolize their own experience to other children, in order to narrate how they saw their own country. They were intended as guides made by children and addressed to other children.

The schools that accepted to take part in the project were 40 (the agreement was spontaneous) and they involved about 1200 children and about 130 teachers. The realization of the small guides was oriented by few questions that we decided to propose to teachers and pupils. Concerning children, we suggested questions such as: “What did you know about your country?”, “Which aspects of your country do you prefer?”, “Which places would you show to a faraway friend?”, “Which aspects of your country would you like to change?”.

As regards teachers, the guide construction was accompanied by a reflection on specific issues, such as: “How children’s thought and talks enter your educational practice?”, “Do you take into consideration places and experiences that children live within their country?”, “When you recognize
the importance of a discovery made by children?”, “How do you support children in exploring and narrating their discoveries?”

The small guide was intended as an instrument oriented:
- to document teachers’ idea of infancy and how they are used to approach children’s thoughts and talks;
- to listen to children and to elicit their narrations;
- to support children during their experiences, to do and to think together with them;
- to create situations of exchange, interaction and reciprocal involvement between adults and children, but also between peers.

The project wished to give to pre-school children the opportunity to construct a participate artifact, based on a shared and explorative work, concerning cultural issues, with the perspective to attract the attention and the intellectual curiosity of other children.

In our perspective, in fact, it is not possible to imagine a form of learning that is realized without or outside of human relationships: the protagonist of learning is always a subject-in-interaction, who constructs her knowledge by interacting with the context and by attributing sense and meaning to the different events that occur within that context. For these reasons, our project aimed at giving voice to pre-school children, at observing where they direct their gazes, what they are impressed by, what is their imagination concerning a specific place, etc.

Moreover, the objective to realize a small guide concerning one’s territory offers to children the opportunity to search for a new point of view, by which it is possible to get the main aspects of the observed context, in order to describe and narrate them to other children.

Even though “Small guides for great discoveries” is a project still in progress, in May 2010 we obtained the first results: each school produced a small guide, after a process of collection of materials (collective outings with the teachers), shared discussion and intensive group activities. Children and teachers worked together and generated different typologies of artifacts, depending on the context where they lived, on the point of view they decided to adopt and on the languages they chose to use. For example, we had a tactile and olfactory map of specific details of the country, a guide that told the history of the fountain of the town, but we had also a refined cartographic work based on the real map of the town. Another interesting artifact was the exploration of the meadows around the town, by adopting three different points of view: the small (i.e. the insect within the grass), the big (i.e. the animals who walk on the grass) and the immense (i.e. the sky with its fashionable clouds). In general terms, children produced four types of maps/guides, respectively related to:
- walking matters (streets, paths, tracks, etc.);
- relationships human being-Nature;
- places of the everyday life (fountains, castles, libraries, churches, etc.);
- man’s cultural productions (clocks, mosaics, masks, etc.).

From a methodological point of view, there were some transversal aspects that connected the modalities of realization of the 40 guides: the conversation within small groups, the teacher’s maieutic dialogue, the contextualization of contents and the ability to adopt several communicative codes and registers. Another characteristic that the works had in common was the capability to read and re-interpret all that is ordinary and belonging to everyday life.

Finally, an important aspect of our project was the continuous relationship between pre-school children and the community where they live: parents, grandparents, parish priests were often interviewed and involved in children’s work. Moreover, in several cases children had the opportunity to present their products within their territory, for example by accessing to city councils.

A project like this, in fact, other than a pedagogical-educational meaning, has also a political and institutional dimension: from one hand it represents a new opportunity to elaborate a more complex thought and culture of infancy; from the other hand, it offers the possibility to renovate the public legitimation of pre-school identity, intended as a system constituted by several intellectual subjects.
Psycholinguistics is interested in the relationships between speech and thinking. In this regard it is very important to know if and how these relations may change, when the use of language takes place in a specific medium. This can be examined well with the aid of genres like the diary which exists as paper- and as online-form.

For the conceptualization of the relationship between speaking and writing the paper refers to the cultural historical approach and especially to Vygotskijs concepts of higher psychological functions and written speech. For Vygotskij higher psychological functions develop from lower psychological functions. They are specific human because they develop only through the use of signs as instruments for thinking. Among that language as well developed human sign system owns a prominent place. Therewith, Vygotskij conceptualizes essential parts of thinking as linguistic organized. This linguistic organization is accompanied by the social organization of thinking. For Vygotskij speaking is first and foremost an instrument of communication and social exchange und becomes only in the course of time when it is interiorized an instrument of thinking and useful for the individual person. Furthermore, Vygotskij assumes that a change of the linguistic instruments and their use causes always a change of thinking. He discusses this question especially with the help of written language acquisition of children. Through the conceptualization of writing as written speech he connects it with oral speech and inner speech. Simultaneously, he indicates main specifics of this form of language use as he characterizes written speech in comparison to oral speech e.g. as more abstract and less connected with a direct motivation.

Against the background of that it is to discuss what happens to written speech and with that also with thinking, if there is a transfer from paper to the internet. The internet offers both by reason of specific technical possibilities (e.g. linking) and the changed addressivity structures (if a web page is not password protected it can be read by everybody) very specific and partly new possibilities to the writer. Meanwhile by an analysis of writing as by an analysis of speaking the particular genre has to be considered. Because essential qualities of speech, such as addressivitiy structures or expansion and contraction, are not only connected with the specific modality, as Vygotskij assumes in the 6th and 7th chapter of Thought and Language, but also with the respective genre. In this regard, we have to look at the genre diary. In due consideration of the historical development of diaries it can be shown that this form has its roots in very different genres such as chronicles and
travelogues. Modern diaries in present terms develop from the Renaissance. The culmination in circulation is reached within the 19th century where the growing popularity of the genre is tight connected with the development of specific philosophical and socio-cultural concepts like privacy, sensibility or pietism. Furthermore, it is to consider that diaries build a genre which is not constituted by formal demands like extent, regularity of the writing or writing topics. Concerning diary writing as form of social practice however we find several implicit social concepts and conventions about the use of diaries. These are bequeathed through (famous) examples as well as through guidebooks which also may have influence on the selected adressivity structures.

These conditions basically apply to paper as well as to online diaries. Differences exist especially in terms of possible adressivity structures. Even if from a vygotskijan point of view monologic speech does not exist as it is also addressed when the speaker or writer speaks or writes for him- or herself, we have to consider that diary writing as very private form of writing addresses first and normally exclusively the writer. This form of written self addressing may cause difficulties especially for young writers. These have to deal with the challenge to write down matters which they in fact already know. One strategy to get along with this situation may be the use of an imaginary companion. With the aid of this construct, which is traditionally known from preschool children, they address and organize their writing process. The paper interprets the use of this construct in written speech as possible interiorization strategy. Writers of online diaries face very different challenges. Indeed, they also write the diary for themselves but here is added a public dimension. Regardless if their diary is situated in a password protected area or accessible for anyone using the internet they have to write explicitly that they can be understood by interested readers. On the other hand they have to take care to protect their private sphere from possible unwanted readers. These two opposed strategies have, as will be shown, considerable influence on online diary writing. The examination of different adressivity structures in paper and online diaries happens with the help of a corpus analysis. The corpus consists of about 800 diary entries of 14 writers of paper and online diaries who are between 15 and 50 years old and wrote a diary for the time slot of at least five months with an average of minimum five texts per months. A quantitative analysis first shows the frequency of the forms. The qualitative analysis of explicit adressivity structures concentrates on the interpretation of the respective forms. Based on this analysis of adressivity structures the paper presents finally thesis, which consequences these may have for several forms of thinking in writing e.g. remembering and self formation.
Introduction

The dynamics of recent workplace transformations are not sufficiently understood from the perspective of everyday work (Launis & Pihlaja 2007). Long-term qualitative changes in the collective activity of work are particularly difficult to grasp, and yet these changes significantly affect how people make sense of and develop their work. Work is becoming more complex, and different tasks and responsibilities are being increasingly distributed to inter-organizational networks. The challenges of regeneration, innovativeness and well-being for work organizations require work communities to have tools to evaluate their activity and alternative developmental paths. From the point of research, the complexity of recent transitions in the realm of work requires new articulations and conceptualizations.

In actual work life, companies and work organizations try to renew themselves in the face of hardening competitive situations and to find new, more efficient operating procedures, also known as production and service concepts. These concepts can be grouped under the term 'operating' or 'activity' concepts.

Activity concepts as changing logics of work

An activity concept is firstly a conceptualization of a logic or principle rather than its detailed realization. It directs attention to a whole system rather than merely its parts. An activity concept is not a plan but manifests itself in a practical work activity, regardless of its degree of explicitness or articulation. Therefore, the analysis of an activity concept of a particular local work site is a question of empirical investigation and experimentation. The starting point for activity concept analysis is to find collective reconceptualizations of the transition process according to the nature of the change (Launis & Pihlaja 2007).

An activity concept can be understood as a meta-level generalization for seeing and bringing compatibility to the parts or elements of a work system. The notion of an activity, as understood in cultural-historical activity theory (Engeström 1987), is in the core of activity concepts. Two basic dimensions are essential in them: the relation of exchange between producer and user, and the relation between use value and exchange value (Virkkunen 2007). As activity concepts thus hold increasing significance for understanding the competitive advantage of an enterprise (Virkkunen & Ahonen 2007; Virkkunen e. 2010), it is obvious that they have strategic significance, and a connection to business models. A business model is a framework for making money: the set of which activities a firm performs, how it performs them, and when it performs them, so as to offer its
customers their desired benefits, and to earn a profit (Afuah 2004). However, activity concepts differ from business models in at least three ways: 1) An activity concept always exists in the practice of work, regardless of its degree of explicitness or articulation, 2) Activity concepts focus on and depict qualitative changes in forms of work activities, and 3) The process of analysis of activity concepts, in one way or another, includes the perspective and intentionality of employees. Therefore, the notion of an activity concept has potential for understanding meaningfulness and well-being at work, and in particular, their relation to changes at work.

Within developmental interventions of work, representations of activity concepts have proven to be promising as tools for the orientation, reflection and development of work activities (Seppänen et al, 2009). They help us understand the ways in which learning in collective work, as well as the directions where competences and agency of individual employees can be supported (Virkkunen, 2007). For researchers, conceptualizing and modelling changes of activity systems offer ways to produce knowledge about the transitions of work as well as for highlighting the formation of work-related well-being (Launis & Pihlaja, 2007). The analysis of activity concepts has therefore two interrelated meanings: a theoretical one aiming at producing general knowledge about work transformations and well-being, and a developmental-interventionist one. Both of these require an analysis where developmental interventions can be used in different ways. The notion of activity concept still remains ambiguous, partly due to varied methods for analysing them. We believe that it is of crucial importance to examine different methods for analysing activity concepts.

**Networks**

Networks at work have growing importance. Collaboration across organizational boundaries has the advantage of accruing information and resources from diverse sources, which, together with the commercialization of knowledge, has greater importance in economic growth. Various forms of interorganizational partnerships have become core components of corporate strategy (Powell & Grodal 2005). Moreover, growth in task complexity increases the demand for work co-ordination. Therefore, work organizations may merge or diverge into complex networks over the boundaries of the public and private sectors. These changes are often accompanied by changes in ownership, the introduction of new information systems, outsourcing, or a shift to the purchaser-provider model. Moreover, from the perspective of object-oriented activities, large work organizations are often better regarded as networks rather than unified or coherent activities. The network character often adds one layer more to the work system which makes work tasks more complex and thus changes the logic and concept of the work system. In social network analysis, the unit of analysis is the relationships themselves (Hudson 2004). However, this does not provide knowledge about either
the interaction or the dynamic change of network relationships. While relationships, collaboration and co-ordination are crucial for networking activities and employee well-being, their analysis is not sufficient for understanding the change and the challenges that the evolving network-level brings for work and its organization, at both strategic and grass root levels. The notion of the activity concept, modified for depicting the character, content and functioning of the network rather than those of one activity system, can be of help in this. A multi-layered and complex network needs an orienting model for managing the whole system. We will call the outcome a 'network concept'.

**Methods for network concept analysis - what is the role of developmental interventions?**

The cultural-historical approach to analysing network concepts is historical. The evolution of techno-economic paradigms (Freeman & Louçã 2001) and historical types of work (eg Victor & Boynton 1998), together with their implications for the nature and challenges to well-being (Launis & Pihlaja 2005) offer heuristic tools for examining features of activity and network concepts. Moreover, the activity system model (Engeström 1987), in particular the object of activity, is used for the study of concept transformations.

We present the methodical analyses of the network concepts involved in three research and development projects. Developmental interventions were involved in all these projects, but their role in the analysis of network concepts was different. The first empirical case is a developmental intervention aiming at analysing and developing the networked process of wood procurement (Ala-Laurinaho, Schaupp & Kariniemi 2009), in which a technological change was pivotal in the development of the new network concept. The second is an interventionist study of airport baggage handling work in the turbulent world of aviation (Virtanen, Ruotsala & Launis 2007). Research on the networks around rail traffic control (Ala-Laurinaho et al. 2009) comprises the third case. Here, the evolution of a network is based on preparation for open competition in rail traffic, dividing the earlier unified task into separate public and private tasks, according to the purchaser-provider model.

**Aims**

Our contribution has two aims. First, we examine the methods involved in the analysis of network concepts in the above mentioned R&D projects. On the one hand, the analysis is, in different ways, guided and supported by features of historical types of work, as well as by inquiries into local and domain-specific histories. On the other hand, activity concept analyses are based on researchers' interpretations of practitioners' (employees' and managers') accounts, perspectives and object-formations. The findings will show a great variety of methods used. In research of the dialectic-interactive approach, contents and methods are seen as defining each other (Hedegaard and Fleer...
2008). We show how the network concepts and their methods of analysis were interwoven in each case. Second, we evaluate the different roles of developmental interventions in analysing network concepts. In particular, we refer to Change Workshops (Launis, Virtanen & Ruotsala 2007), which is a modification of a Change Laboratory® (Engeström 2007) particularly for promoting well-being through developing work. Our findings show that while interventions are crucial in the gradually evolving analyses of network concepts, it is often the researchers, after the intervention, who continue formulating and theorising on network concepts and their changes. In the end, we discuss the implications of these findings for the notion and methods of analysis of network concepts, as well as for activity theoretical interventionist research methodologies in general.
As argued elsewhere by this author, cultural-historical psychology lacks a view of communication generally and of language more specifically which is consistent with its emphasis on the primacy of activity as the generative matrix of distinctively human social and psychological capacities. This theoretical vacuum has been filled, and continues to be filled, with conceptions and insights borrowed from a range of traditions, including modern linguistic theories, whose assumptions and methodologies are wholly inappropriate for understanding and illuminating activities as creative and transformative practices of particular individuals unfolding dynamically in situ. Within Vygotskian cultural-historical psychology in particular, there are a range of problematic, though foundational, conceptions which are influenced or informed, to some extent, by semiotic and linguistic assumptions at odds with a consistently activity-oriented approach. Such problematic theoretical constructions as the natural vs cultural (or lower vs higher) dichotomy, internalization, social vs individual, and the problem of understanding the role of signs (in particular, linguistic signs) in practical activity, revolve around assumptions about the nature of language (and the relationship of language to thinking) which have a long history in western intellectual thought but which are difficult to reconcile with an approach in which activity has pride of place.

Here I argue for an approach to semiosis on quite a different basis, one which is resolutely, rigorously and systematically grounded in activity as the primary category of human life. The 'integrationist' approach, developed by Roy Harris and others, is one which derives all its principles of semiotic understanding and analysis from a consistent focus on the real-life, contextualized and necessarily time-bound creative practices of particular individuals. As Harris puts it: 'Signs, for the integrationist, provide an interface between different human activities, sometimes between a variety of activities simultaneously. They play a constant and essential role in integrating human behaviour of all kinds’. From this perspective, signs are not 'used' in communicative practice (or 'realized' or 'expressed') but are created by acting subjects as aspects of their purposeful behaviour in context. Meaning does not exist in advance of activity but, rather, significance is bestowed on phenomena as a function of the ways in which these phenomena are connected to what is being done. Thus, semiotic significance or value is inherently relational or transitional: it is relative to the unfolding activity, a transition from this point to the next. It is this fundamentally time-bound nature of signs, their being transitions in the unfolding actions of particular individuals, which explains why attempts to model them as fixed elements within some static structure are bound to fail, and are
bound to distort and downplay the essentially and intrinsically creative nature of semiotic processes. At the same time, and perhaps more fundamentally, the paper argues that human cultural behaviour cannot be seen as a process in which 'cultural signs' (and, in particular, verbal signs) are 'imported' by some means or other (e.g. via a process of 'internalization') into practical and intellectual activities. Rather, we should see all human actions (however 'primitive' or 'conventional, and whether solo or joint) - including all actions displaying so-called 'practical intelligence' - as generating their own intrinsic semiotic field.

The paper goes on to examine the implications of such a resolutely activity-oriented view of semiosis for the problematic conceptions and areas within the CHAT tradition. In particular, I argue that the phenomena considered to be evidence for a process of 'internalization' can be viewed quite differently and the natural/cultural (or lower/higher) dichotomy with its attendant difficulties (including a dependence on a hypothetical Stimulus-Response 'foundation') entirely disappears when the creative sign-making capacities of human beings are seen in their true light.
Lately, the foreign population has increased in Catalonia (Spain) from 3% ten years ago to nearly 15% nowadays. For example in Salt (Girona) there were 6% of immigrant people in 2000 and above 42% in 2009 (IDESCAT, 2010). The ethnic, identity, linguistic diversity has different effects on society, in broad sense, and education, in particular. Several studies showed empirically that immigrant students know less Catalan and Castilian, oral and written, in contrast to autochthon students (Oller & Vila, 2008; Vila, Canal, Mayans, Perera, Serra, & Siqués, 2009). In that sense, we have designed various education programs aimed at improving literacy of immigrant families ("teixint cultures").

We studied the education of ethnic minorities according to home-school continuity-discontinuity framework or home-school mismatch framework (Poveda, 2001) and the “mesosistema” concept (Bronfenbrenner, 1979; 2005). According to Bronfenbrenner (1979) the relationships between microcontexts (for example school and family) provide some resources that foster the human development. By school and family continuity Bronfenbrenner means mutual trust, positive orientation, goal consensus and balance of powers. The continuity between settings improves the proximal process, that is to say, the consistent interactions between people and ambient (Bronfenbrenner & Morris, 1998).

It is possible to argue that in homogeneous cultures people share “funds of knowledge” (Gonzalez, Moll & Amanti, 2005). However, when there are different cultural backgrounds it is possible the existence of important discontinuities between school and families. The inconsistency, ignorance and cultural distance between them can negatively affect on mutual trust, positive direction, consensus of goals, and balance of power. Our hypothesis is that cultural distance would affect and explain the bad academic successful of some minorities like children from Africa in Catalonia.

The aim of this paper is to show some data from a first part of a research that aims to analyze school culture (teachers’ ethnotheories) and family culture (family ethnotheories) continuities and discontinuities. We suspect some cultural distance between them. For example, we suspect that teachers do not know how the culture of his and her students is. Moreover, the teaching and learning home and school strategies could be quite different.

We think that the teachers and families behaviors are not random but is culturally patterned. The “ethnotheories” (Goaddnow, 1988; Keller, 2007; Sigel, 1985) concept refers to representations,
ideas, beliefs, expectations, which are culturally generated, about the development, education and right strategies of socialization.

Several studies have suggested two patterns of socialization: the individualistic and the collectivistic (Bruner, 2003; Greenfield, 2009; Greenfield, Keller, Fuligni, & Maynard, 2003). In Catalonia, most of the immigrant families come from rural and collectivist countries like some rural areas of Africa. However, this may clash with individual messages that permeate the school individualistic culture (Trumbull, Rothstein-Fisch, Greenfield, & Quiroz, 2001).

The paper examines six teachers’ interviews from different Catalonia schools (Girona) and 6 African immigrant parents’ interviews.

The results showed that teachers emphasized academic success and the development of creativity and autonomy, and parents emphasized culture-related goals for their children such as obedience, respect or religion values. These data supported the existence of different cultural models: an apprentice model that is typical for rural agrarian cultural contexts, committed to interdependent socialization goals like harmonious family relationships and obligation to the family system; and equally model of infancy, that is typical for urban middle-class cultural contexts and informed by independent development goals, like an autonomous agency and uniqueness. It seems that the image of the “good student and person” in parents’ country of origin is so fundamentally ingrained in their beliefs about child rearing that it is retained after immigration. Nevertheless, both cultural models coexist to varying degrees in different sociocultural and historical environments. That is to say, the beliefs of African parents are integrated with some aspects of the image of adaptive adulthood which prevails in the host culture. African parents would like their children to grow into intelligent, joyful, and independent adults, to be well educated and to hold prestigious occupations. Nevertheless, African parents place a greater emphasis on social competence and teachers emphasized autonomy and achievement. We suggested that educational ethnotheories represent configurations of values, beliefs, assumptions, conflicts, and tensions about how to be a good person. These findings hold conceptual and applied implications for school and family relationships in multicultural settings

References


Recognising the significance of multiple modes in human meaning-making is common to many theorists who take on the challenge of grappling with a broad perspective on communication. Kress (2010: pp. 9-10) suggests that the most significant principle of human communication is: 

… humans make signs in which form and meaning stand in a 'motivated' relation. These signs are made with very many different means, in very many different modes. They are the expressions of the interest of socially formed individuals who, with these signs, realize – give outward expression to – their meanings, using culturally available semiotic resources which have been shaped by the practices of members of social groups and their cultures.

While in broad agreement, I propose that this formulation gives rise to three emphases I see as limitations in some circumstances. One is that while the 'signs' are viewed as culturally-derived artefacts, at the moment of their employment they are conceptualised as somehow static, some fixed thing chosen. Another emphasis potentially a limitation, is the stress upon the individual human (as s/he makes a choice. When Kress and related social semiotic theorists give examples to illustrate the meaning of modes, those they choose tend to appertain to the individual. The first examplar mode mentioned after the passage quoted above is 'gesture'. Jewitt (2010, p. 1) asserts:

The starting point for multimodality is to extend the social interpretation of language and its meanings to the whole range of representational and communicational modes or semiotic resources for making meaning that are employed in a culture – such as image, writing, gesture, gaze, speech, posture.

One feature of this list is the relative conceptual proximity of gesture, gaze and posture, all describing fine motor movements by the single human being engaged in face to face communication. Finally, a further potential limitation lies in not maintaining as central acts interpretation by the researcher: "All comprehension is creation" (Stevenson, 1879/2008).

Leontiev (1978: 13) proposes that no isolated activity can be understood without an appreciation of the social ties and engagement with the environment at that moment. I am not suggesting that Kress, for example, would necessarily disagree with this but proposing that there is in the theoretical umbrella perspective we term CHAT a foregrounding of the social at the moment of (multimodal) communication. I trace possible ways multimodality can be approached through examples from three different projects.
A Day in the Life: an ecocultural investigation of childhood
In the 'Day in the Life's study we videoed the interactions of seven two-and-a-half year old girls with their environments, including caregivers and other people over the course of a day. The girls were each living in a different country and the research was undertaken by an international team. Our methodology incorporated prior interviews, later discussion of extracts from the 'day' with the families, and interpretative dialogue within the research team.

Roger Hancock and I studied 'eating events', for example engaged in by Juanita in a small village in central Peru. We deployed the term 'eating event' to indicate our practice-based orientation, by analogy with Heath's (1983, p. 386) literacy event: 'any action sequence, involving one or more persons, in which the production and/or consumption of print plays a role', using 'eating' in place of print (Gillen and Hancock, 2010, p. 101).

![Figure 1](image.png)

An eating event in Peru. From left to right: Aunt Lina with bowl and spoon, Cousin Ana bringing Juanita's requested hat, and two-and-a-half year old Juanita.

In the still taken from our video Juanita is being fed by her aunt Lina, while accompanied also by a cousin, Ana. Lina feeds her spaghetti and papa huancaina (potatoes with sweet cheese sauce). Juanita eats a considerable amount, occasionally pausing and pointing at her still full mouth to actively take part in the regulation of her aunt’s next spoonful. Juanita’s own diversions are responded to. Here she calls for a nearby hat she glimpses –Ana fetches it for her and aunt Lina repeats the word several times, seemingly gently correcting her pronunciation. Lina adjusts her body attentively in alignment to Juanita's sitting position, while Juanita makes considerable use of gesture in her communications; multimodality, not always necessarily with verbal elements, is characteristic of early childhood (Anning & Edwards, 1999). The distal researchers were assisted to comprehend this event through reflections offered by the local researcher who emphasised the
importance of nutrition in this sometimes cold, mountainous area to which some degree of prosperity had come only recently. As the researchers' video camera is trained upon them, Lina and Ana perform their cultural values in ensuring Juanita is well nourished while keeping her amused and responding to her initiations. So, as Juanita notices a bird, Lina incorporates interest in her observation with pursuit of her nurturing purposes: ‘What? birdie? Let’s see eat for the little bird - for Tweetie, tweetie. Ok, chew more, chew, chew. Eat, Juanita’. Juanita effectively orchestrates additional interests while cooperating with her aunt's agenda.

*Studying archaeology with teenagers in a virtual world in the Schome project*

This is a 'snapshot' from a meeting about archaeology during the Schome Park Programme, which used the virtual world, Teen Second Life (TSL). In the full paper I analyse a transcript from the interaction pictured in the image: a discussion on issues related to dealing with human remains in archaeology, including preservation, burial practices, dating and ethics. I demonstrate how the rhythm of turntaking is different from that of face to face interaction and affects the form and content of the interaction.

The discursive practices of this particular sociocultural environment, encompassing of course the particular society involved and shared and separate histories, as for example illustrated above, demonstrate:

no sociocultural environment exists or has identity independent of the way human beings seize meanings and resources from it, while every human being has her or his subjectivity and mental life
altered through the process of seizing meanings and resources from some sociocultural environment and using them. (Shweder, 1984, p. 2)

**The Edwardian postcard project**

Seemingly the Edwardian postcard might offer only the possibilities of a textual approach, divorced from the original interaction in which they played a role. However, taking a broad CHAT-influenced approach, we have found that it has been possible to broaden our understandings of the cards as a communications practice in three respects, explored in the full paper with reference to Figure 3.

![Figure 3](image)

**Figure 3**
Card sent in 1902 to Miss Carmichael in Lockerbie, Scotland.

With the introduction of the picture postcard in 1894 and freeing up of the format in 1902, there was an immediate explosion in communication, as the newly near-universally literate population grasped the opportunity for informal written messages, ungoverned by the relatively strict conventions of letter writing. This opportunity for the rapid exchange of effectively near-synchronous, multimodal communications was arrested by the First World War and was not available again the UK until the digital revolution. The card shown in Figure 3, posted in Lockerbie and received a few hours later, thereby illustrates the quick-fire multimodal communications technology enabled for the Edwardians and taken up by them with such gusto in what we would call today social networking. Further, through pursuing information sources including the 1901 and 1911 censuses and other public records we have been able to establish a biographical narrative behind this particular card as described in the full paper.

**Conclusion**

As Haraway (1997: 218) proposes, discourses are 'not just words: they are material-semiotic
practices.' I have emphasised the formation of multimodal texts in the course of activities, in specific spatio-temporal circumstances, including at points of their investigation and interpretation. While recognising that focussing upon multimodality can also raise some questions for CHAT theory, specifically relating to the analytical separability of 'tools', I would conclude that supporting a focus on interaction as a starting point, holding all processes of meaning-making and interpretation as dynamic may lead to the further enrichment of the study of multimodalities.

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387. Infusing Expertise in Elementary Students' Collaborative Design Process

Kaiju Kangas - Pirita Seitamaa-Hakkarainen

Background

Research on the learning sciences has indicated that learning in schools does well to mirror authentic, real-world processes and practices of inquiry (Bransford et al., 2006; Hakkarainen et al., 2004; Lombardi, 2007). It is desirable that learning resembles the multiple ways of knowing and doing that experts use in professional life. The significance of having contacts with domain experts arises from the process of learning to understand their tacit knowledge, practices and goals of solving problems, and working with knowledge, as well as the values and identities they model for the students. Although the student-expert partnerships have mostly taken place in science studies (e.g., Barab & Hay, 2001; Bell et al., 2003; Charney et al., 2007; Hsu & Roth, 2009; Jurow, Hall, & Ma, 2008), there are no solid reasons for not using participation approaches as well in the field of Design & Technology (D&T) education. The involvement of professionals in art and cultural education has been recommended in several studies, however, relatively little is known about the nature of systems that enable partnerships of this kind (Arts and cultural education at school in Europe, 2009). The present study reports an effort to bridge school and professional life by bringing a design expert to the classroom to guide elementary students through a lamp designing process.

Design activities and design learning provide students important opportunities to work with complex design tasks within authentic and meaningful learning contexts. These kinds of authentic design problems enable students to adopt complex, flexible and creative actions as they identify, pose, transform, and abandon solutions. Authentic learning activity is, in sum, coherent and personally meaningful as well as purposeful within a social framework (Collins et al., 1989; see also Hennessy & Murphy, 1999; Murphy & Hennessy, 2001). However, many studies indicate that both students and teachers find it difficult to engage in authentic inquiry processes. While learning by design is often a promising context for authentic processes, and also appealing and motivating for the students, it is not always easy to participate in and learn from design activities (Puntambekar & Kolodner, 2005). Students need support and guidance to perform the various activities involved in designing successfully, and teachers and tutors need understanding of both the tasks and the students being supported (Puntambekar & Kolodner, 2005; Wood, Bruner, & Ross, 1976).

The educational value of authenticity and participatory learning depends on engaging students in dealing with complex problems, sharing and creating knowledge, breaking boundaries between educational and other communities, and promoting the development of students’ agency. Moreover, and in order to support school transformation, all these require a form of scaffolding where the
dialogue between students and experts, as well as the interaction with tools and material artifacts, moves students towards full participation of a particular social culture.

The traditional assumption of scaffolding is that it involves adults working face-to-face with learners and that the adult is in dialogue with the learners. This social aspect of scaffolding can be extended by accepting that it is not only more able adults or peers who can provide scaffolding. The other aspect of scaffolding is material, embedded in technological tools, physical artifacts, activity structures, and shared knowledge practices incorporated in learning processes (Davis & Miyake, 2004; Hakkarainen, 2009; Pea, 2004). The sociocultural theory, as well as the situated learning theory, emphasize the close connection between verbal language and mediating physical artifacts and tools. This connection is particularly strong in collaborative D&T settings where the joint problem solving activities are oriented towards creating a shared, and often material, object (Hennessy & Murphy, 1999; Johansson, 2006; Murphy & Hennessy, 2001).

**Aims and objectives**

The present study emphasizes participatory aspects of design learning and the authenticity of learning. The overall goal was to provide some insights into how disciplinary expertise might be infused into D&T classrooms and how authentic processes based on professional design practices might be constructed. Our aim was to describe pedagogical practices that allow one to acknowledge the role of domain expert's participation in design learning. Furthermore, our aim was to examine how the authentic expert practices and scaffolds were taken up by the students in the course of their designing. The following research questions were addressed:

1) How was disciplinary expertise infused in elementary students' collaborative design process?
2) What was the role of social and material scaffolds in implementing the authentic practices of professional designing?

**Participants and setting**

The collaborative lamp designing project was organized in an elementary school in a middle-class suburb of Helsinki, Finland. 32 fifth-grade (11-year-old) students participated in the project, working in 13 heterogeneous teams of 2-4 students. The leadership for the project was provided by a professional interior designer specialized in lamp and light designing, together with the teacher. The designer was present in the classroom during the whole project, and the interaction between him and the students varied from face-to-face whole-class discussions, to small-team discussions, and to discourse within the project's database. The project lasted 17 lessons during a period two months, and the design process was implemented by sketching, drawing, and building prototypes or
models. The students also regularly presented their designs to the whole class. The technical infrastructure of the project was provided by Knowledge Forum (KF, Scardamalia & Bereiter, 2006).

Data Analysis
The lamp designing project was video recorded in its entirety; the video recorded lessons and the Lamp Designing view (workspace) of the project's database constituted the data sources of the present study. The analysis was performed by following the procedures of qualitative content analysis with the help of Atlas/TI software. The transcribed video data (about 260 pages) was segmented into design events, i.e. identifiable segments of activity. The analysis of these events was conducted at four different levels. We identified 1) the social setting in the classroom, 2) the design inquiry phase of the process, 3) the obstacles that the students faced, and 4) the designer's scaffolding strategies (including both social and material scaffolds). The present study is an ongoing work, and by the time of the conference, we hope to have deepen the analysis in a way that enlightens more the students' productive use of the designer's participation.

Results
The lamp designing project involved four distinct social settings: the designer's presentations, students' presentations, whole-class discussions, and small-team designing. The main activities were creating, elaborating, experimenting, and testing design ideas in the student design teams by sketching, drawing, and building prototypes or models. Our analysis revealed that the students faced several obstacles in implementing the professional design practices. They had difficulties in identifying the design constraints, and considering them as an integral part of the design process. Externalizing the design ideas for reflection was challenging for the students, as well as focusing attention to the aspects that needed elaboration. They also faced obstacles in envisioning the non-existent lamps and representing them. The diverse scaffolds that the designer provided were essential in supporting the students to overcome these obstacles. The designer, for example, demonstrated how to use different artifacts for visualizing the design ideas, and provided professional terminology, tools, and materials for elaborating and representing the ideas. The material mediators of scaffolding had a central role in the interaction and sharing of design practices; with them, the designer's tacit knowledge became visible and available for the students. Furthermore, the students' sketches, models, and notes supported the verbal interaction by providing clues and hints to their design thinking. These mediating artifacts and representations worked as ‘boundary objects’ (Star, 1989), by holding communication together; other forms of design
communication were built around these representations (Henderson, 1999).

Conclusions
According to Quintana et al., (2004) the most focal obstacle of learning is the lack of domain-specific knowledge that the students may have; almost all the other learning obstacles are consequences of this “bootstrapping problem” (e.g., needing of rich conceptual knowledge to guide learning.). Scaffolds help compensate this by providing opportunities for learners to successfully solve problems, but at the same time helping them to build more domain knowledge and appropriate disciplinary practices for future use (Quintana et al., 2004). The results of the present study indicated that the direct exposure to the skills, problem-solving abilities, knowledge, and language of expert designer nurtured the development of students' design agency; the scaffolds he provided helped the students not only to develop their design ideas further, but also to build professional, conceptual design knowledge. The designer's continuous face-to-face interaction with the students, his knowledge and support, was essential in creating of an authentic and meaningful design context and implementing professional practices in the classroom. We can conclude that these kinds of partnerships between students and expert practitioners can expand learning beyond encapsulated traditional schooling by providing access to a wider range of professional knowledge and resources. Furthermore, participatory learning can raise the quality of teaching and learning, encourage greater creativity, and promote students' agency.
Individualism-collectivism has been the focus of much cross-cultural research and is considered to be the most important constructs to depict cultural differences. It was postulated that members of collectivistic societies tend to perceive themselves primarily as part of a group and their self-concept is interdependent, while members of individualistic societies place themselves as independent subject and focus on a self-concept that is autonomous. What is a “substratum” of the certain mode of identity, no matter collectivistic of individualistic? From our theoretical perspective, one of the significant psychological factor that determines a person to think and to act as a collectivist or as an individualist is belief of how the human life should be lived, experienced, remembered and presented to others. Objectively it might be accessed in a life narrative. In such texts, narrators selectively engage their lived experience through personal storytelling. As Smith and Watson (2001) noted the process or narrating includes the constitutive processes of autobiographical memory, experience, identity, embodiment and agency. Taken together they create both unique and culturally specific “database” for coherent personality.

As it was said above, our life narratives are extremely selective. The permanent shortage of human consciousness and a frame of communication force to limit the autobiographical narrative only to a few events (according to our data not more than 15, see Nourkova, 2000). How do people decide what to recollect and what do not recollect as a part of their life narratives? From the cultural-historical perspective it is mostly determined by so called “cultural life scripts”. Cultural life scripts are commonly shared mental representations of the culturally appreciated events in a typical life, their age norms and outcomes (Bernsten, Rubin, 2004; Nourkova, Mitina, Yanchenko, 2005). Person creates own life narrative in correspondence with typical events from scenario with special regard to exceptions. We could say that normative notion of life narrative shapes the way people do remember themselves and as a result understand themselves and finally live their lives. But it is still much to learn about how different cultural life scripts and autobiographical stories are in modern and traditional communities, even if people live in the same country and speak the same language. Namely, do members of collectivistic communities really have more “collectivistic” memories? Do they include into their memories more references to others then individualistic subjects? Do they recollect more interactions or, possibly, do they demonstrate lower level of agency in their memories? Is it the life script that makes self-concept individualistic or collectivistic? Or it is the
language itself? And finally, do life scripts include homogeneous norms for different ages (either individualistic or collectivistic) or are they dynamical within cultures? Is it reasonable to propose that life scripts make memories more individualistic for one age and less individualistic for another?

The presented empirical part of study was based on analysis of interviews with 15 members of isolated community of Russian devoted old-believers from rural village (65 – 94 years old). The rational behind the choice of those sample was the already supported positive relations between religiosity and vertical and horizontal collectivism (see for details Cukur, de Guzman and Carloz, 2004). Participants were asked “Tell their lives”. Each interview lasted one and half ours in average. A group of 15 urban residents of the same age participated in the study as a control. We have found out that subjective saturation and themes of recollections were different for both groups. It is especially notable because the objective biographies for the generation of ex-Soviet people were almost identical. While urban participants demonstrated “reminiscence bump” – a well documented increase in reported memories from the second and third decades of life (Rubin, Wetzler, Nebes, 1986), old-believers reported the highest proportion of recollections from their childhood. Urban people talked mostly about their education, birth of children and grandchildren, and marriage. Therefore, they demonstrated the concept of the self-interested individual intent on commonly appreciated achievements (because of demographic situation in Russia there were a majority of females). Old-believers privileged topics of hard job, death and religiosity with almost no notions of their children and grandchildren. They told stories of assessing the status of the soul in the context of various obstacles and “hard life”. Urban participants started their stories from very individualistic personal achievements with focus on I-ness and then produced more and more collectivistic memories with focus on children’s and grandchildren’s achievements. Contrary, old-believers started with stories of interactions (in frame of collective job) and then increased the level of I-ness talking about their later ages. Therefore, the core of our invention is that cultural life script is a dynamical schemata for memory. Probably urban (modern) life scenario turns from individualistic perspective in youth to collectivistic perspective in later ages. In opposite, rural (traditional) life scenario switches from collectivistic perspective in youth to individualistic perspective in old ages.

In our study we tried to overcome limitations of traditional narrative-centered approaches to autobiography. We propose a model that employs culture and activity (motive, conscious goal, operations) as influential determinants of the exact qualities of the narrative. We put the concept of narrative in the context of notions of personality, culture, activity, identity and autobiographical memory. In our view, it is reasonable to interpret autobiographical narrative as both a process and a result of verbal goal-directed action determined both by common semiotic rules and personal
motives. Autobiographical narratives serve as a mechanism of awareness of own life course and through that allow to reestablish a hierarchy of motivation for the further activity. Focusing on two similar in language (Russian-speaking) groups of people different in respect to collectivism-individualism dimension we isolated language as an external variable. Cultural life scripts were analyzed as a cultural tool to determine a prevailing in the certain culture model of personality. We have shown that culturally specific type of personality is mediated by cultural life scripts those are dynamical schemata for self-concept.
Young learners' participation in exploratory talk in mathematics

Ros Fisher

The proposed paper draws on a Cultural Historical Activity Theory (CHAT) perspective to argue that in order to better understand classroom learning in mathematics, researchers need to look at students’ participation in the institutional practices associated with learning in school. This participation is strongly influenced by cultural historical practices within institutions. Thus, any change to learning contexts must take into account not just the content of the curriculum but the patterns of participation of both teachers and students within the institutional practice.

The paper draws on an Esmée Fairbairn funded project, ‘Talking Counts,’ that investigated a project designed to promote student-student talk in twelve primary mathematics classrooms (ages 5-7). The design of the project was based on exploratory talk as defined by Barnes (1976) and developed by Mercer, Wegerif & Dawes (1999). It supported teachers’ use of explicit strategies to promote student-student dialogue. Such interventions have been seen to be effective in supporting collaboration in small group work and in fostering ‘thinking together’ (Rojas-Drummond and Mercer, 2004). This has also been seen to be of value in supporting children's 'thinking together' in mathematics (Mercer & Sams, 2006). The focus of this paper is on the discourse in these classrooms, how this discourse developed as group work was established and what this can tell us about young learners’ participation in the institutional practice of school. Early findings indicate that while there were changes to patterns of discourse in the project classrooms, there was evidence that changes reflected existing power relations as much as new patterns of exploratory talk.

Vygotsky (1978) argued that human action on an object is guided not by instinct, as with animals, but by ‘motives, socially rooted and intense’ (37) that provide direction. It is mediated action in which ‘a complex psychological process through which inner motivation and intentions, postponed in time, stimulate their own development and realisation’ (26). Leontiev (1978) further developed the idea of object motive, arguing that there is no such thing as objectless activity. Leontiev discusses how the objects of activity are formed. He argues that human activity is formed not from within the individual but as a result of the reinforcement of the external environment; ‘Society produces the activity of the individuals forming it’ (51). Moreover, activity is not static. It is dynamic and evolving across institutions. To understand the performance of children in school it is necessary, therefore, to look at the patterns of participation within the institution and how children’s individual intentions and goals support or hinder their modes of participation in the social context of...
The context in which children learn mathematics is now seen as key to cognitive development. Esmonde (2009) refers to the classroom as a ‘social ecology’ that has evolved cultural forms and historical practices. As part of this context children are engaged in the practice of learning mathematics as “initiation into a pregiven discursive practice” that occurs when “students act in accord with the normative rules that constitute that practice” (Cobb and Bauersfeld, 1995: 6). Thus in order to understand students’ learning of mathematics, researchers need to examine how young learners participate in classroom activity and in the existing patterns of participation.

Hedegaard and Fleer (2008) argue that ‘children’s efforts and motives are usually directed towards successfully participating in the practice traditions of particular institutions’ (15). Thus how children participate in the discourse practices of the school will be linked to what their interpretation of their experience of schooling has led them to focus their attention upon. This will orientate their actions as they develop as learners.

The data discussed in the proposed paper consist of three separate hours of video recording from each of the twelve classrooms taken from the beginning, middle and end of the three month project. The videos focus on the whole class element of the lesson and a focus group of three children working on Maths investigations. In the second and third video recordings the children are working using exploratory talk procedures that have been introduced as part of the project. Also analysed are interviews with each of the twelve teachers.

The video data and interviews were transcribed and the transcriptions analysed using NVivo software. The video data were also reviewed and a record made of indicative paralinguistic and contextual information. The focus is on patterns of participation in whole class sessions and the small group work. Findings provide some insight into how classrooms and their pedagogies provide cultural models of learning and how students develop as learners within the institutional practice.

Early findings point to these young learners not only working on mathematical problems but negotiating their position in the ‘figured world’ (Holland et al, 1998) of the classroom. The paper will present data to illustrate the way the social interactions around the mathematics activities were revealed as dynamic processes in which goals shifted. Students’ participation in the exploratory talk appeared to be directed as much by their understanding of classroom power relations as by talk of
an exploratory nature. It is argued that exploratory talk as a concept is hard to develop within a classroom context in which relationships and outcomes are far from exploratory.

References
Deciding and Doing What’s Right: The influence of ethical discourses and practices in workplace learning

Lausanne Olvitt

Introduction

This research paper shares selected findings from a PhD study of learning processes associated with ethics-oriented reflexive deliberation at the interface of courses and workplaces. The study is part of a wider research programme with Rhodes University and the South Africa Qualifications Authority (SAQA) into change-oriented workplace-learning and sustainability practices (Lotz-Sisitka, 2008).

The paper begins with an overview of how Cultural-Historical Activity Theory (CHAT) has been used as a theoretical and analytical framework to examine the nature of workplace learning as learner-practitioners reflexively deliberate the ethical aspects of their work, at the interface of course and workplace. The term ‘learner-practitioner’ is used here to denote the integrated nature of their identities and practices, simultaneously as ‘learners’ on a professional development course and as ‘practitioners’ in a professional workplace.

Through case studies of environmental education practitioners studying a year-long, work-integrated course, the paper focuses on the extent to which the environmental discourses and habituated practices of the workplace and course influence their deliberations on the environmental ethics dimensions of their professional practice.

The ethics dimension of environmentally-oriented workplaces

Modern work ethics and practices were originally constituted through the expansion of industrialisation, colonialism and capitalism. In this process, the modernist ‘work ethic’ purposefully separated workers from wider concerns in the world, including socio-ecological relations (Bauman, 1998). Today this ‘development dream’ is increasingly difficult to sustain, and is marred by unsustainable practices such as the production of pollution and waste; exploitation of workers, resources, ecosystems and ecosystem services; and economic activities that allow persistent poverty and inequalities to thrive despite unprecedented economic growth and development.

Through international and national policy initiatives and rising public concern, organisations (including those providing and creating work) are realising the need for change towards more sustainable ways of living amongst people and within planetary limitations. New ethics and practices are being introduced into workplaces that take better account of socio-ecological relations. Various new sustainability practices are permeating institutions and workplaces. These
sustainability practices introduce a change-oriented learning environment, at the heart of which lies the creation of a new work ethic. Little is understood, however, about the dimensions and dynamics of these change-oriented, ethics-oriented learning processes in workplaces, and the role of professional development courses in supporting them. The values and ethical orientations associated with sustainable development agendas and sustainability practices newly introduced into workplaces are often taken-for-granted, under-examined or contradictory. While professional development courses may provide orientation and conceptual capital to engage with the ethical dimensions of work, the course curricula are themselves values-based and the carriers of particular discourses.

Research Methodology

The research draws on case study data generated with four environmental education practitioners working variously in local government and non-governmental sectors. The workplaces include: i) the environmental education and training section within local government structures of a large South African city; ii) a wetlands conservation programme within a South African environmental non-governmental organisation (NGO); iii) a small NGO concerned with the health of two local rivers and; (iv) a small NGO supporting environmental learning in disadvantaged schools in their district. Data was generated over 36 months from extensive course observations (the researcher attended all teaching sessions of both courses); audio recordings of selected course interactions; workplace observations (the researcher spent an average of 8 days in each workplace); institutional and course-related documentation (such as meeting minutes, annual reports, job descriptions, course handouts, learners’ assignments etc.) and over 30 interviews with learner-practitioners, course tutors, workplace mentors and colleagues.

Within third generation cultural-historical activity theory (CHAT), Engeström (2001, p. 136) identifies the prime unit of analysis as a “collective, artefact-mediated and object-oriented activity system, seen in its network relations to other activity systems”. This paper takes as its prime units of analysis the activity systems of four learner-practitioners in post-apartheid South Africa, engaging with the ethical dimensions of their environmental education practice. It examines how their activities and progress towards achieving their objectives are bound up in networked interactions with other activity systems such as the national qualifications authority, the course provider, and the workplace – including the communities with whom those workplaces engage. Each of these activity systems is characterised by particular discourses and habituated practices which are the carriers of values. It is at the interface of the discourses and practices of course and those of the workplace that the newly trained environmental educators reflexively deliberate the ethical dimensions of their work.
Environmental ethics, as a new and emergent sub-field of philosophy, is inevitably diverse and multi-voiced. A multiplicity of environmental ethics perspectives underpin environment and sustainability practices – either explicitly or otherwise. They are inherent in national and provincial environmental legislation, in institutional policies, environmental programme documents, course curricula and educational materials ranging from school text books to public awareness raising posters (Jickling, 1999). But when it comes to identifying and engaging critically with such underlying perspectives, environmental managers, policy makers, educators and the wider public are left largely unsupported. For example, in commenting on the ambivalence of sustainable development discourse, Hattingh (2002, p. 14-15) reveals how different interpretations of sustainable development provide “ideologically loaded answers to fundamental value questions”. Questions which he suggests require more careful examination include:

- What is so important that we should strive to maintain it forever? Is it expansion of material growth; consumption; survival; needs satisfaction; quality of life; the flourishing of life on earth; or the ecological basis of life in general?
- With a view to whom or what should we pursue the sustainability of this valuable something? Do we do it for the sake of nature, or the sake of people; do we do it for the sake of the rich or that of the poor; or for the sake of the whole of the community of life?

Such questions are central to environmental education and Education for Sustainable Development (ESD) processes because they are both the bearers of culturally and historically situated values and the potential catalysts of ethically-guided action and socio-ecological change. These culturally and historically situated values manifest in the discourses that dominate workplaces and communities and also steer the ethically-guided actions that people take.

This is the socially complex and contested terrain in which the four environmental educators introduced in this paper, plan and implement their educational activities with schools and communities. One case example reveals, for instance, how the environmental discourse of the organisation was implicitly known to the experienced employees but had to be sought out and ‘decoded’ by newcomers; how the curriculum of the professional development course presented learners with an eclectic overview of diverse, sometimes contradictory environmental and ethical discourses; and how the learner-practitioner – a young, Zulu male from a disadvantaged social background – had to assimilate or reject these often competing environmental discourses in his work in relation to his own life experiences and culturally-inscribed values and ethical orientations.

In a second case example, the opposite occurred. The workplace was characterised by a very explicit and particular environmental value system which gave rise to ethics-laden workplace
discourses and practices. The newly appointed learner-practitioner was ‘taken under the wing’ of various colleagues who lent him DVDs and books to steer his environmental practices in the direction which they (as vegetarians striving to minimise their carbon footprint in all aspects of their personal and professional lives) felt was most appropriate.

Drawing on these and other case examples, the study suggests that the ethics-oriented deliberations and practices of learner-practitioners is influenced by their emerging professional identity in relation to that particular organisation, and that this identity formation process is significantly influenced by the discourses and practices (explicit and implicit) of the workplace and, to a lesser extent, of the course.

**Conclusion**

Insights from this study (which is still in progress) are of value to those planning and supporting workplace learning, as well as to developers of professional development course curricula where integration of course processes with workplace discourses and practices is desirable. Deepening understandings of the nature of ethics-oriented reflexive deliberations in workplace learning processes can help course developers, tutors and workplace mentors to attend more closely to aspects which this paper suggests are influential, namely more explicit but careful mediation of discourses and practices at the interface of the course and the workplace; and greater attention to the ways in which these influence the (emerging) professional identities of learner-practitioners.

**References:**


396. Researching Communities of Practice: An insider perspective in identifying and using boundaries to access and represent processes of transition and development

Michael Doyle

‘Communities of Practice’ has become a generalised and vogue heuristic to capture forms of collective professional practice whether face to face or virtual. It is also used to conceptualise and investigate newer forms of interagency working practices, particularly where professional boundaries are to be addressed and crossed especially through policy driven developments, whether in health, education or other fields. In the UK such work practices are now commonplace between educationalists and other professional groups such as social workers. However, in most cases little thought is given to the process of development of such working practices, and indeed the issues of professional boundaries, discourses, priorities, relationships and hierarchies and their negotiation are under-researched, and therefore under-theorised. Partnership and collaboration, with their positive discursive connotations, are generally assumed by policy makers to be unproblematic.

Limited critical research has been done into the concept of community of practice first developed by Lave and Wenger (1991) and subsequently by Etienne Wenger (1998). However, the concept of the community of practice is extremely helpful in explaining the new work practices of interagency working that are increasingly prevalent, involving processes of ‘boundary spanning’ and ‘brokering’ (Wenger, 1998: 108). The notion is also discursively positive, encouraging community members to develop affiliations as members of the communities. An associated strand of socio-cultural theory, Activity Theory in its ‘third generation’ (Engestrom 2001) has provided significant conceptual, analytical and interventionist methodological instruments (Development Work Methodology, or DWM), and these have been successfully applied and developed in wider research contexts (for example, Warmington et al 2004) facilitating the development of professional learning in negotiating and crossing boundaries. Indeed Engestrom and Miettinen (1999:12) criticise community of practice theory (Lave and Wenger op.cit.) for a gradualist and emergent notion of development within prevailing discursive practices of the community, resulting in an inability to deal with what they term ‘instability and inner contradictions.’

Such research developments using DWM have largely been characterised by the use of interventionist methods by ‘outside’ researchers, geared to supporting development through the recognition and addressing of Engestrom’s notion of the ‘double bind’ or contradictions
(Engestrom, 1990: 84) by the research subjects themselves. However, such interventionist approaches, when not addressing ‘primary contradictions’ (Engestrom, 1987) have been criticised by some researchers, for example Avis (2007), for risking the confusion of research with a form of management consultancy.

In contrast, this paper uses and develops an ‘insider perspective’ in researching the processes of coming to know in collaborative activity between several communities of practice (college tutors delivering a programme designed collectively, university lecturers responsible for the validation and ownership of the programme and local authority employers, who initially demanded the programme and provide the students) engaged in interagency working developing a higher education programme. The author, as an insider researcher, uses the position of boundary spanner or broker to research development activity. It uses a critically reflexive insider perspective in investigating the coming together and subsequent development of different professional groups, analysing issues of power, discourse and identity in processes of expansive transition and development. It also provides an evaluation and critique of insider research methodology more generally based on the issues raised in this context. Interventionist methodological instruments associated with Engestrom’s (2001) Development Work Methodology (DWM) are used and critically evaluated to identify and use boundaries and to access boundary data at key points of the development of what Wenger (1998: 158) refers to as the ‘nexus of multi-membership’ in interagency working.

In doing so it uses reflexively an insider’s perspective to offer a critique of processes of researching communities of practice, using a methodological approach to the investigation of development through practices of collaboration.
Over the past two decades, a growing body of research and theory as well as a widespread movement of curricular reform have been organized around the notion of multimodality, most prominently associated with the work of Gunther Kress, Theo van Leeuwen, and their colleagues (e.g., Jewitt & van Leeuwen, 2001; Kress, 2003, 2009; Kress & Van Leeuwen, 2001; van Leeuwen, 2008). Although this approach has prompted insightful analyses and has successfully attracted attention to broader semiotics, in this paper we identify five critical problems in the articulation of multimodality theory and argue instead for a sociohistoric framework focused on the ways semiotic activity and artifacts mediate social practices and identities.

Kress and van Leeuwen argue that the digital revolution in information and communication technologies ushered in a new discursive era where multimodality becomes a key for theory, research and practice (see Kress & van Leeuwen, 2001; Kress, 2003). We begin this paper by identifying five problems with their articulation of multimodality theory, problems that we argue ultimately limit its value. First, the objects of multimodal inquiry have almost exclusively been semiotic artifacts, typically print texts or screens that mix images and words. With this strong orientation to artifacts, the semiotic character of activity has not been addressed. Second, in part reflecting this exclusive focus on artifacts, the methodology of multimodal studies has mainly relied on close readings—re-descriptions in a conceptual vocabulary—of artifacts. Although production, reception, and social practice are discussed, they are simply read off of (i.e., imagined from) artifacts (the text) or added as context to them rather than being investigated through situated methods (observation, interview, dynamic capture of documents). Third, Kress (2003, 2005) has construed affordances as rigidly determined and distributed by mode rather than as relational, ecological, and tendential, the theory Gibson (1979) proposed. As a result, Kress constructs fixed modal binaries. For example, he represents words (language) as finite, sequential, vague, and conventional, whereas images are infinite, spatial, specific, and natural. In effect, Kress invites a multimodal replay (image vs. word) of the literacy debates (oral vs. writing) of the 1970s, debates that were largely settled when research (e.g., Scribner & Cole, 1979; Heath, 1983; Biber, 1988) found the characteristics and consequences of literacy and orality depended on cultural practices rather than mode. Fourth, the notion of mode has remained difficult to nail down. Kress and Van Leeuwen (2001) define modes as semiotic resources that can be realized in various media. Language, they said, is a mode because it can be realized in speech or writing. Writing is a mode because it can be in stone or on paper. Among the modes they went on to identify were color,
pattern, narrative, furniture, and probably, they concluded, plastic.

Finally, reflecting its derivation from linguistic approaches that have traditionally focused on language as object rather than on practice and have bracketed off issues of learning (except for the bare acquisition of language itself), multimodality theory has no integrated account of how semiotics relates to learning. In fact, Kress (2005) stated that “semiotics does not deal with learning; just as pedagogy or psychology does not deal with signs.” This remarkable statement ignores a century of sociohistoric theory and research. Voloshinov (1973, 1976), for example, offered a semiotic theory centrally interested in concrete learning, of ways individuals appropriate and are appropriated by social and ideological systems of signs, while Vygotsky’s (1987) central insight was that human development, cognition, and action are all radically reshaped by sign mediation.

In contrast with multimodality theory, sociohistoric work (e.g., Wertsch, 1991; Hanks, 1996; Rogoff, 1995; Agha, 2007; Valsiner & Rosa, 2007) offers a number of tools for pursuing not simply the multiple semiotics of representational artifacts, but also the nature of the semiotic practices that are as fundamental to understanding the production, reception, and distribution of semiotic objects as they are to understanding how semiotic mediation shapes the sociogenetic (re)production of people and social formations.

After presenting this critical analysis of multimodality, we will then describe notions of semiotic remediation (Iedema, 2001; Prior & Hengst, 2010; Scollon, 2008) and argue for the value of studying how semiotic practices as well as artifacts mediate activity. Semiotic remediation as practice draws attention to "the diverse ways that humans’ and nonhumans’ semiotic performances (historical or imagined) are re-represented and reused across modes, media, and chains of activity" (Prior, Hengst, Roozen, & Shipka, 2006). Semiotic remediation is aligned with multiple lines of scholarship that highlight chains of media and chains of mediation, including Bolter and Grusin’s (1999) notion of remediation (transformations across media); Latour’s account of technical mediation in actor-network theory; mediated discourse analysis (see Scollon 2001); Bakhtin's (1986) translinguistics and Voloshinov's (1976) Marxist theory of signs; Hutchins’ (1995) description of distributed cognition as "propagation of representation across representational media" (p. 118); and Vygotskyan studies of mediated activity (e.g., Cole, 1996; Valsiner & Rosa, 2007; Wertsch, 1991). Semiotic remediation calls attention to the multiple semiotics that are re-mediated (in a dialogic sense) in situated activity as well as to the chains of media and chains of mediation central to tracing historical trajectories of activity. In contrast with multimodal theory, a focus on semiotic remediation as practice 1) attends to semiotic activity as well as artifacts; 2) calls for close situated study of semiotic practices; 3) understands affordances as relational, ecological
and tendential; 4) returns to the term semiotic as a way of indicating a broad interest in signs rather than working from the limited notion of mode; and 5) is centrally concerned with how semiotic practices and artifacts work together in activity in trajectories of learning and social formation. Semiotic remediation as practice then is fundamental to understanding the work of culture as well as communication.

Finally, we will focus on a brief example from research data to illustrate this notion of semiotic remediation practices and the value of tracing such practices. Drawn from a larger study, we will look at a small segment of videotaped data in which an art and design group at a university interact (write, read, talk, gesture, manipulate, make) around and with computers, paper, books, and whiteboards. We will analyze how the semiotic activity of the group mediates their redesign of a web-based art object as well as how it implicates other trajectories of motivated activity—activity that contributes to building the participants' individual careers as artists and academics, enacting graduate education for research assistants, and working to remake disciplinary, professional, and public communities. This example highlights the profound heterogeneity of mediational means and complexity of semiotic artifacts and activity that can be found in even brief stretches of activity as that activity enfolds (see Latour, 2005) far-flung networks of other time, places, and people.
This paper connects with the current methodological discussion in cultural-historical activity theory on the concept of the object. Its concern is to explore the concept of the object in regard to complex objects, so-called ‘wicked issues’ (Clarke & Stewart, 1997), which are collaboratively worked upon in governance processes. This paper argues that the concept of the object has to be broadened in order to be used in research on governance activities. It substantiates its argument with the outcomes of an empirical project that looked at the local governance process in a German regional educational project aiming at developing a so-called ‘educational landscape’.

In recent years the concept of the object has become increasingly contested and worked upon in cultural-historical activity theory (see e.g. the special issue of MCA on the object from 2005; Kaptelinin & Nardi, 2006). Leont’ev’s (1978) notion of the object has become expanded into conceptualisations that enhance the dynamic and evolving nature of the object and pay special attention to the individual’s agency (Foot, 2002; Kaptelinin, 2005; Miettinen, 2005; Nardi, 2005; Stetsenko, 2005). His concept has been criticised to be insufficient for explaining the dynamics of an activity, as it does not take the multi-motivatedness of objects adequately into account (Kaptelinin & Nardi, 2006). Kaptelinin and Nardi (2006) thus suggest to distinguish the notion of the object from the notion of the motive, and conceive the object as being shaped by the various individuals’ motives and needs that they bring to the activity (see also Kaptelinin, 2005; Nardi, 2005). Drawing on this notion of multi-motivated activity, Miettinen (2005) points out that shared objects are complex and contradictory in nature and always imply negotiation between the involved actors. Also Nardi (2005) emphasises the contested nature of objects but takes the passions and desires which animate the motives behind the objects into account. In her research she found that the multiple motives with which collaborating actors relate to the object were linked through relations of power, conflict, resistance, and acquiescence and it was exactly the struggle of aligning the different motives that gave rise to a single activity.

Picking up on these elaborations, this paper argues that ‘wicked issues’ which are dealt with in governance arrangements have to be understood as highly contested conflict-laden and multi-faceted problem spaces. Following Nardi (2005), these problem spaces evoke various ‘passions and desires’ among the involved actors who project their various motives and needs onto them. This paper points out the inherently relational and contradictory nature of complex objects which plays...
out in negotiations across institutional boundaries and administrative levels. It bases its arguments on empirical data of a doctoral study that explores the dynamics of local governance activity within a German regional educational project that aims to develop a so-called ‘educational landscape’.

Educational landscapes emerged in German educational policy as a reform concept in reaction to the shock that Germany experienced in 2000 when PISA (2000) attested a poor performance of the German educational system and a strong connection between student’s socio-economic family background and their school achievements. Educational landscapes aim to improve the local educational provision by coordinating the educational and social support for young people and their families in networks between school and non-school organisations as well as other societal partners in the community. Education here has been identified as what Clarke and Stewart (1997) termed a ‘wicked issue’: a policy problem that is persistent and cannot be solved easily but requires a multi-dimensional approach. Wicked issues are characterised by the following features (Leach & Percy-Smith, 2001, pp. 186-187):

- they are multifaceted,
- they cannot be resolved by any one level of government,
- a large number of different agencies and organisations are likely to be involved at the local level to address certain facets of the problem,
- they do not align easily with existing organisations’ departmental structures,
- they need long term interventions, the impacts of which will only become visible in the long run and therefore exceed the time limits commonly required for strategies and plans.

Reflecting these characteristics, educational landscapes mark a new joined-up participative approach of educational policy-making in networks, which is termed as local governance. It ties in with processes of decentralisation, as the development of educational landscapes is facilitated by a regionalised infrastructure. In order to allow an appropriate reaction to the local affordances, ‘educational landscapes’ need to be constructed and instantiated on the local level in a participatory top-down/ bottom-up process, making use of practitioner’s local knowledge, resources and innovation power.

The doctoral study from which the empirical data of this paper stems, explores the dynamics of such a local level governance process through the lens of a local steering group that arose within a regional educational project in Germany. The group consisted of school principals, directors of youth welfare organisations and kindergartens, as well as a regional project manager who also moderated their meetings. It was studied over a period of two years and nine months (November 2006 until August 2009) and ethnographic data from the group meetings were collected by means of audio recordings and participant observations. Interviews with individual members of the
steering group at two different times (half a year from the beginning of the steering group’s work in summer 2007 and two years later in summer 2009) were conducted to highlight the shifting professional perspectives and positioning of the group members towards the project. Additionally, minutes of the meetings as well as relevant project documents were used in the analysis.

Drawing on sequences from the meetings of the local steering group in its first months the paper shows how actors - translating the notion of educational landscapes onto the local level - bring their stakes into the discussion and negotiate upon the content and the strategy of the project in the sub-region they are in charge of. Focusing on this interplay of the different motives and desires that the actors bring to the process, the analysis illustrates how highly contested the design and instantiation of such ‘wicked’ problem spaces are when actors come from different practice backgrounds and when such top-down initiated projects interfere with their previous relations in the local community.

**Literature**


Introduction and research focus

Digital technologies have challenged the historically stable relationship between teachers, textbooks, tasks, and tests (Clarke-Midura & Dede, 2010; Lund & Rasmussen, 2008). Students today have access to multiple information resources and they often retrieve content from the Internet, which is not necessarily produced for schooling. While information in school textbooks is selected, controlled and “authorized”, information on the Internet is unfinished, messy, produced by peers or persons unknown, and not always verified and proofread. Using the Internet productively for learning requires therefore additional and different skills and competences than those needed within the more traditional textbook dominated educational regime. For educational purposes, such competences cannot be fostered without systematic guidance, nor is it easy to assess the development of these kinds of skills and competences with traditional summative, individually written tests.

Traditionally, assessment has sought to account for how well students are learning. The model underlying assessment is often referred to as the assessment triangle, where the three key elements are: observation, interpretation and cognition. Hence, assessment can be described as the process of reasoning from evidence (Pellegrino, Chudowsky, Glaser, 2001). Recently, researchers have also added the dimension of consequences to assessment in order to increase the ecological validity of such practices (Bachman & Palmer, 2010). The validity of assessment is challenged when the underlying activity system of knowledge production changes. Today, we see how schooling struggles to appropriate digital and networked technologies, not just only because they are powerful artifacts in themselves, but because they transform and expand opportunities for learning, the division of labor involved, and the rules and conventions under which education traditionally has taken place: “The explosion of new social network technologies has highlighted the awkward relationship between new ‘21st century’ media practices and existing educational systems”, (Hickey, Honeyford, Clinton, & McWilliams (in press) and, consequently, “...current methods of testing are incapable of validly measuring sophisticated intellectual and psychological performances” (Clark-Midura & Dede, 2010, p. 310). In particular, technology enhanced collaborative and collective knowledge production has shown how teachers’ monitoring, overview
and follow-up of individual as well as collective contributions are easily disrupted (Lund, Rasmussen, & Smørdal, 2009; Lund & Smørdal, 2006). In order to respond to these challenges we address the following empirical question:

• How can we increase the validity of assessment practices so that they comply with networked individual as well as collective knowledge production?

This general question is the point of departure for the study that we report from in this paper; a group of teachers together with researchers and technology developers re-designed and tested a wiki, which afforded several assessment opportunities for individual and collective knowledge production. In the light of the long assessment tradition in schools, assessing skills and competences involving digital literacy and collaborative activities in Web 2.0 environments is still fairly underdeveloped, it involves going beyond what we currently possess. The design of the wiki assessment features in this study can therefore be described as a process in which the participants are trying to create something which has yet to be created or, in activity terms, expanding the object by constructing “something that is not yet there” (Engeström, 1996:165).

**Theoretical perspective: participation and assessment**

Since Lave and Wenger (1991) introduced participation as a powerful metaphor and fundamental principle for learning this term has exercised substantial influence in educational research as well as on practice. In her seminal article, Sfard (1998) discusses the ontological and epistemological implications of the term and how its cultural and collaborative character compares with the acquisition metaphor, often associated with a more cognitive and individual approach to learning and instruction. The participation metaphor has also given rise to the notion of communities of practice; a particular type of collaboration where newcomers are enculturated into an existing practice by way of gradually moving from peripheral observer to practicing expert.

While educational practices for many years have included diverse participatory practices such as pair work, group work, and project work we see that learners today often engage in collaborative activities that require a more extensive repertoire of collaborative competence. For example, in the US more than 50% of teenagers with Internet access produce digital resources (text, sound, video) to be shared and do not just consume or download content (Pew Internet and American Life Project, 2002). In light of these new skills and competences we need a conceptualization of learning that reflects both dynamic changes and that accounts for the embeddedness of learning. Participation is therefore in this study combined with trajectories to describe the processes and results of having taken part in activities over time (Rasmussen, in press).
Data and Method

We report from a longitudinal intervention study at two Norwegian Upper Secondary Schools. The study rests on principles of design-based research where interventions are iterative, theory-informed and aim to capture the ecology of the learning situation. The study attempted to contribute to the development of new assessment opportunities and practices in order to bridge the gap between learners’ networked activities and a valid assessment of these. The design process was based on classroom observations, teacher and researcher workshops, and a series of interventions in which the evolving wiki features were tested in up to four classes simultaneously.

Case: creating something, which has yet to be created.

At an early stage the teachers expressed a need to closely monitor the students’ activities while working in the wiki in order to be able to intervene, comment and assist them in their learning. To follow up on this, the design team developed a formative assessment tool that visualizes participation trajectories and that has a space for the teacher to intervene along the way (illustrations cannot be shown in this format but will be in the paper presentations).

As mentioned, the technology captures what the students are doing in the wiki, in the form of individual contributions as well as collaborative patterns. For such data to be used as a basis for formative assessment by teachers during hectic lessons the data needs to be displayed in an immediate and accessible way.

In the following we briefly present the assessment features that were developed by the design team, mostly as a response to needs articulated by the teachers involved. The new wiki features provide teachers with an overview of the students’ ongoing technology-based activities, the characteristics of the emerging work, who is engaged and in what ways. Three important characteristics of the formative assessment tool will be highlighted and discussed:

1. Individual trajectories visualize the trajectory of contributions from each individual student, such as page creations, edits and labeling (key words for each page).
2. Participation trajectories display several students’ trajectories and the relation between them: who initiated a page, who edited it, who commented on it etc. In the wiki assessment tool these relations are drawn with lines with different colors. As such, the displayed participation trajectories highlight patterns of collaboration in the class, e.g. a collaborative effort to comment on peer contributions or an effort to co-write.

3. Intervention trajectories hold spaces for the teacher to guide the students in their work as it unfolds, i.e. a tool for dynamic and formative interventions. The teacher can inspect the content of each contribution by hovering the mouse pointer over icons. The increment of the students’ text
from one version to the next is displayed in a window where there is also a space for the teachers to comment on the revision.

**Discussion**

The theoretical concept of trajectories was used both as a principle for learning and as a metaphor for design of the wiki assessment features. As such, the assessment features can be seen a materialization of the theoretical concept. Assessment features designed from the idea that learning can be seen as trajectories of participation involve that they hold dynamic and formative qualities. Modern interactive media make what students are doing visible and, thus, afford documentation in the form of snapshots and even capturing longitudinal processes. This, in turn, can be used to understand what and how students are learning. The theoretical suggestion is that analyzing such multi-dimensional data as a trajectories and where both individual and collective activities are displayed can provide new insights on learning.

Students display considerable individual differences and their way of taking part matters for what and how they learn, whether they add a text, whether they systematically revise, add comments, and discuss with peer students. Moreover, the teacher can provide students with immediate feedback on how they are doing, what and how they can improve their work. The old assessment triangle is here replaced by collaborative, mediated, scaffolded, and data-generated event logs that visualize the students’ participation trajectories. Consequently, the concept of trajectories of participation is in this paper used both as a principle for learning and as a design metaphor for assessing collaborative and networked learning activities in a wiki.
Introduction

The Italian – and in particular the Apulia regional – market needs to develop new corporate strategies and policies in order to achieve integration in a global economy (BURP, 2010). Strategies for international competitiveness require deep changes both in organizational culture and in the production or diffusion of the manufactured goods. In the case of small and medium enterprises (SMEs), these cultural and organizational changes are strongly connected to the awareness that cooperation among enterprises provides an added value.

Many scholars suggest that cooperative culture supports more straightforward relationships among people and, therefore, integrated and flexible communities with a high level of professional resilience (Oughton & Whittam, 1997; Zeng, Xie & Tam, 2010). Cooperation among social actors is a paramount objective to be reached not only for the enterprises’ maintenance during difficult times, but also because it could be an economic and social driving force activating social relations and, consequently, community growth (Zeleny, 2001). The representation of competition should be defeated; collective identity, instead, should be valued as a mean to support and improve both organizational and professional identity.

In this field the literature content that competition (a) pushes innovation and improvement of distinct companies within local markets, and (b) fosters individual participation to the development of restricted entrepreneurial communities (Hatch, Dyer 2004; Hitt et al., 2001a; Lepak, Snell 1999; Wright et al., 1994). When cooperation replaces competition, a new dimension is added: a sense of growing community. This sense can be greatly supported by exchanging/saving goods and services which are not part of the enterprises’ core business, the so-called “positive externalities” (Laffont, 2008).

Exchanging externalities: a concept, a bridge to be different

Borrowed from economic sciences, the concept of externality is used in connection with long-term and long-spaced risks involved in any human activities impacting the market. From a conceptual perspective, an externality is the result of the interdependence between human action and environment. In the daily practices, producing externalities implies a change in the environment (i.e., producing waste, pollution) or an impact on other persons (i.e., producing noises, stress). The literature distinguishes between negative, positive and positional externalities (Laffont, 2008). In
In the first case, an action produces negative effect; in the second case, it produces a positive effect; in the third case, the effects are positive or negative depending on the social or spatial position occupied by the person or institution impacted.

In the last decade, there is been a growing interest toward the exchange of externalities considered as a new practice for exchanging resources aimed at reducing costs.

Furthermore, the exchange of externalities is causing the establishment of new organizational identities based on the membership of companies to networks for original and innovative trades. In some case, the network seems to act as a bridge between people and enterprises that otherwise not connected. In other words, new communities are arising, revolving around the exchanges of externalities; new meanings are given to business processes; new entrepreneurs’ identities are building. In this sense, the exchange of externalities could sustain high levels of social capital and great sense of community. A positive loop is generated: more externalities are exchanged, higher sense of community and of social capital can be reached which, higher awareness of own impact on the society in turn, support and motivate new exchanges of externalities.

*Identity and community as the two face of collaboration*

The concept of externality is difficult to grasp because it requires attention to aspects usually neglected, such as how to use spaces and objects normally not part of the core business and therefore considered as a waste. Therefore, it is needed a radical change of perspective on what can circulated and exchanged. A way to enhance the awareness about such change, it is to focus on the contradictions may emerge when companies interact (Engeström, 2000). In this contribution we focus on the collaborative negotiation of the concept of externality and on how such negotiation impacts professional identities and corporate sense of community. In other words, we consider identity and sense of community as dimensions socially constructed while participating at collaborative meaning making activities.

*The construction of meaning of externalities*

In this study we present the analysis of two focus group discussions involving 14 members in total (7 in each focus group) participating to the Costellazione Apulia. The focus group discussions were organized around the following thematic areas: (a) the meaning of externality; (b) the modalities to exchange externalities with individuals and/or enterprises; (c) the relationship between corporate social responsibility and externalities.

Each focus group discussion was prompted by asking participants to watch a video about a positive case of externalities exchange. Each focus group lasted about 90 minutes. Both focus groups were videotaped, later they were entirely transcribed and analyzed by using discourse and content analysis. Two independent researchers analyzed the transcripts looking for relevant excerpts about
the three thematic areas listed above. The researchers compared and discussed the excerpts reaching a total agreement about the salience of the excerpts selected and their interpretation. In order to discuss the results gathered through the analysis of the excerpts, the Activity Theory was used (Engeström, 2000). In particular, we analyzed the process of meaning making looking at the use and the creation of conceptual artifacts, personal involvement through playing special I-positioning (Hermans, Hermans-Konopka, 2010), the emergence of a sense of community, and the development of a common repertoire.

Results
The results of our analysis show that entrepreneurs involved in this project hold different personal definitions of externalities and of the economic aspects connected to their exchanges. The way they talk about externalities allowed us to single out two macro-categories: (a) material externalities (i.e., unsold issues, paper to be recycled, the use of spaces during unconventional hours such as during week-ends or at night, etc.); (b) symbolic externalities (i.e., knowledge, time, competence, trust, etc.). Each of these categories seems to trigger different but interdependent processes of collaboration: mainly based on saving and waste reduction, the first one; based on mutual acknowledgement and improvement of the self-esteem, the second one.

Whatever is the types of externalities, the exchange of them seems to allow entrepreneurs to experience fuzzy borders between professional and private identity. They self-report internal I-positions defined as ‘different’ and as ‘innovators’, opposite to ‘standard’ entrepreneurs, in particular when they talk about good practices. Furthermore, their external I-positions are strongly impacted by various stakeholders - such as clients, employers, providers - with which the entrepreneurs seem to be in constant symbolic and internalized dialogue.

Within the discussion entrepreneurs tend to refer to personal and common past experiences and to use them as artifact for understanding and make understanding in the others about the concept of externality. At the end of discussion, those conceptual artifacts allow them to achieve a multidimensional definition, more complex than the prior. These personal definitions include private and professional I-positionings (Hermans, 2007) and the sense of memberships entrepreneurs fell to have in their companies and in the larger contexts of the Consortium Costellazione Apulia.

Conclusions
For SMEs entrepreneurs of a South Italian region such as Puglia is quite a big challenge to be involved in a project where they are required to find externalities to exchange with other SMEs. This request forces them to conceptualize this practice as a resource for development and innovation and as a way to face the current economic crisis. By analyzing two focus group
discussions we found that the involvement in the project meant for them a radical re-definition of their private and professional identity. The I-positioning of “begin different” is at the center of the sense of belonging to any community they belong to, not only those connected to their professional lives. Furthermore, the “being different” seems to impact their perception of corporate social responsibility and it is the glue holding the entrepreneurs into the Consortium and sustaining their participation to the project. Finally entrepreneurs collectively negotiated their past experiences using them as artifacts useful for re-defining externalities.
Sociocultural theories have proven influential in mathematics education research, but we see the need for revisiting central concerns of concept use (e.g., Guile & Young, 2003). The ideas of sociocultural theories also resonate with particular developments in contemporary philosophy, for example Brandom’s (2000) inferentialism. Inferentialism is a recently developed semantic theory that is relevant to our concern with concept use because it places inference at the heart of human knowing. Brandom characterizes his inferentialism as pragmatist, holist, rationalist expressivism. Compatibility between sociocultural and inferentialist ideas can be explained by Hegel’s influence (Derry, 2008).

The purpose of this paper is to explore the potential of Brandom’s (2000) inferentialism as it sheds a light on neglected areas of Vygotskian research. We do this in the context of learning statistics—a discipline that is significant for the new generation of citizens of the global society and knowledge economy (Hoyles et al., 2010). Rethinking statistics education is necessary because it is too often taught as a toolbox of relatively separate concepts and graphical representations (Bakker & Derry, in press).

**What is inferentialism?**

Brandom (2000) argues that concepts should primarily be understood in terms of their role in reasoning within a social practice of giving and asking for reasons, and not primarily in representational terms. Put simply, Brandom’s philosophy contrasts representationalism and inferentialism. Representationalism refers to the position that representations are the basic theoretical construct of knowledge. Representationalism is based on the assumption that the use of concepts is explained by what they refer to (i.e. where conceptual content is primarily understood atomistically rather than relationally). Knowing what individual concepts mean is then the basis for being able to make judgements.

Inferentialism reverses the representationalist order of explanation and takes judgements to be fundamental unit of awareness or cognition. As Vygotsky puts it:
"we must seek the psychological equivalent of the concept not in general representations, … not even in concrete verbal images that replace the general representations – we must seek it in a system of judgements in which the concept is disclosed." (Vygotsky, 1998, p. 55)

Inferentialism entails giving priority to inference in accounts of what it is to grasp a concept:

"To grasp or understand (…) a concept is to have practical mastery over the inferences it is involved in—to know, in the practical sense of being able to distinguish, what follows from the applicability of a concept, and what it follows from." (Brandom, 2000, p. 48)

Thus Brandom’s semantics is rooted in pragmatics. Just as key idea in sociocultural theories, meaning is understood as constituted in activity or social practice: “the representational dimension of discourse reflects the fact that conceptual content is not only inferentially articulated but also socially articulated. The game of giving and asking for reasons is an essentially social practice” (Brandom, 2000, p. 163).

Lessons from inferentialism

The first lesson that we draw is: It is in the context of reasoning that representations (words, graphs, etc.) gain and have meaning. In particular, statistical concepts should be understood in terms of their role in inference, i.e. in terms of the commitments entailed by their use.

A further distinction that Brandom (2000) makes is between atomism and holism. Representationalism seems to lead to an atomistic approach because the meanings of concepts are assumed to be understandable solely by their reference to what they represent and then are combined to make judgments. By contrast inferentialism is resolutely holistic: “one cannot have any concepts unless one has many concepts. For the content of each concept is articulated by its inferential relations to other concepts” (Brandom, 2000, p. 15-16). Our second lesson—that one cannot inferentially reason with any concept without drawing on its inferential relations to other concepts—is a corollary of the first.

Empirical illustrations

The empirical illustrations stem from teaching experiments in Grade 6 (most students were 11 years old, lasting 18-20 lessons). Classroom interaction was videotaped, interviews with students and their teacher were audiorecorded, extensive daily reports were written about observations made that
day and relevant parts of the recordings were transcribed. At the end of the school year the teacher spontaneously wrote a summary of her development in the teaching experiments.

We characterise this development as one from a representationalist to an inferentialist approach. For example, initially the teacher stated: “my whole focus seemed to be on the importance of creating a good graph, the ability to read graphs that were given to students and to be able to identify the range, mean, median, and mode.” However, she was frustrated with students’ poor reasoning. At the end of the teaching experiments she “heard discussions that were shifting to what the data might be telling us and less on a reciting of this is the mean, median, and mode (often identifying the wrong value).” In our reading, “what the data might be telling us” signals a focus on inferences rather than on representation. Her summary concurs with our observations that her approach had become less atomistic (addressing concepts one by one) and more focused on inferences from data (judgements).

As an illustration of the two lessons from inferentialism, we highlight one instructional activity: A fish farmer claims that genetically engineered (GE) fish grow about twice as tall as normal fish; is he right? We know that students are not inclined to use arithmetic means for such comparisons (Konold & Higgins, 2003). However, there is also a danger that students blindly compute means without paying attention to other relevant features of data distributions. In the teaching experiments we always asked students to make observations of what they noticed in data sets, thus promoting their making judgements. We did not pay any attention to the computational procedures of mean or median.

Towards the end of the teaching experiment, students naturally included judgements about various aspects of the data distributions before they compared the means, showing awareness of aspects often neglected in statistics education. As an illustration we cite Tom explaining his graph:

“And this one [the normal fish] there is a lot more, there is 292 [using the count option]. And this one [GE fish], there is 67, so there is about a fourth, a little under a fourth. This one [GE] is a lot more gradual, it is spread out, but they grow a lot bigger and this one [normal] is very steep [points with the mouse along the slope] and then is really steep, going down. And you can see that it is not really twice. These ones aren’t twice the size of these ones. It is more like one and a half times.”

The paper illustrates how privileging inference over representation leads to students understanding concepts’ inferential function (e.g., the mean to compare data sets). This is in line with the first
lesson that concepts should be primarily understood in terms of their role in reasoning and not primarily in representational terms (mean as a number). With regard to the second lesson of privilege holism over atomism, we note that the concept of mean is here connected to many other statistical concepts, including sample (sample of GE is smaller than of the normal fish), variation (‘spread out’), and distribution (shape: gradual versus steep).

Discussion
Lessons from inferentialism suggest that greater attention be paid to students’ awareness of the conceptual domain at stake (in this case statistics education). Both awareness and the knowledge domain have been given insufficient attention in constructivist and recent approaches informed by sociocultural theory. To speak of a knowledge domain such as statistics is not to refer to anything fixed (a commodity) but rather to a field within which concepts are connected to each other by virtue of the uses made of them. This paper has illustrated what statistics education could look like if we privilege holism over atomism and inference over representation.

References
Introduction

New ways of presenting information have affected both contemporary society and education. School textbooks and other teaching aids for young pupils nowadays typically include, or sometimes entirely build on, illustrations and visual information. Indeed, according to Kress (2003), there has been a shift during the latest decades in our view on literacy towards also comprising, as a necessity, visual and multimodal literacies. However there are some unrecognised potential problems. One of these is that the transparency of visual language in multi-modal contexts seems to be taken more or less for granted, as does the assumption that the use of visual language is always the most effective way of communicating data (Pintó & Ametller, 2002). Yet visual information is always coded and interpretations are thus always related to particular cultures and contexts, so we must always ask what aspects of illustrations are easily understood by our young pupils’ and what aspects may be stumbling blocks for them. This is remarkably a domain that, to a great extent, lacks research. The present project focuses on the understanding of explanatory pictures and models in pre- and primary school ages.

The domain of research

Research on pupils’ understanding of visual information is to be found at the intersection of (at least) three traditions. First, there is a substantial body of research on ‘graphicy’ (alt. ‘graphical literacy’). Research within this field has pointed out a number of problems that pupils may encounter when dealing with graphs and maps as well as what may facilitate their interpretation (e.g., Åberg-Bengtsson & Ottosson, 2006; Roth & Wang, 2006). Second, an increasing number of studies with focus on students’ grappling with illustrations have been done by researchers with an interest in linguistics and language proficiency and from the fields of visual and multimodal literacies (e.g., Kress 2009; Lemke, 2000). Third, a relatively large corpus of research has been carried out within a theoretical framework that takes its point of departure in the tradition of cognitive science (e.g., Cook, 2006; Schnotz & Lowe, 2003).

Even though analyses in previous research is, to great extent, interpreted from a totally different theoretical standpoint than the one adopted in the present study and has either dealt with considerably older students than those we focus on or has centred on children's own drawing and reading of realistic pictures, their results may still be interesting to discuss in relation to our own.
Aims of the project

The overall purpose of the research project is to contribute to the domain of young pupils’ understanding of illustrations in visually and multimodally communicated information. In this we include explanatory pictures in textbooks, pictures and animations in digital media, as well as three-dimensional models that can but do not necessarily have to be interactive. Illustrations of interest are, for example, exploded views, time axes of the Earth’s evolution, animations and models of processes and circulatory system in our body, food chains and other ecological processes. The following research questions are being investigated:

• How are explanatory illustrations being used in natural science studies and mathematics education in school years 1-5 and in pre-school?
• How do pupils make meaning from such visual information?
• What problems and difficulties do pupils encounter when interpreting illustrations?
• What elements of the illustrations are important for an adequate understanding?
• What are the teachers’ intentions when using the illustrations and how are these intentions in accord with the pupils’ making of meaning?

In addition we intend to point out and discuss pedagogical implications of our results.

Theoretical Framework

The project takes an overall cultural-historical and socio-cultural perspective in the Vygotskian tradition. In particular, it leans on the idea of instruments (tools and sign systems) mediating human-world relations (see, e.g., Vygotsky, 1978). The illustrations in focus (like language) certainly belong to the realm of sign systems. Such systems are cultural artefacts that obtain their meaning from the historical and cultural context where they are created and used. According to Wartofsky (1979) representing is something we do. Thus, nothing is a representation or a model until we construe it and decide to regard it as one. In addition, the way we chose to represent something, will affect how we understand and regard the phenomenon in question. The making of meaning and the appropriation of knowledge are processes that take place in social interactions where the unit of analysis is the activity or event as such – in our case particular educational sessions.

Vygotsky (1987) argued that because pupils’ learning of scientific models is a complex process it needs to take place in the context of schooling. Even though Vygotsky evidently had profound interest in semiotics (Wertsch, 1981), the present project asks for a more elaborate semiotic theory. We found Kress and colleagues’ social approach (e.g., Kress, 2009, Kress & van Leeuwen, 2001) rather than main stream semiotics to be compatible with cultural and activity perspectives. Here semiotics gets contextual and social overtones, implying that function and social use is stressed.
**Methodology**

From cultural and activity perspectives analyses of intersubjectivity and interactional aspects in their context are of particular importance. To catch these and to make it possible to answer the research questions, observational data will be collected both in classrooms when illustrations of interest are being taught and in problem solving situations with small groups of children. In addition interviews will be conducted with teachers when watching recordings from these sessions where what took place in situ will be discussed.

In addition to field notes, the main method for documenting data will be video recordings. In most sessions two cameras are used, one catching the interpersonal interaction within the groups and one focused on the illustration to make clear what is talked about, drawn or pointed at. Relevant parts of the video recordings will be transcribed verbatim and with appropriate situational aspects included. Field notes will be typed out as soon after the observed sessions as possible.

In the analyses we will focus on the following:

- Interactions in the educational situations with respect to how teachers and pupils handle and make use of the illustrations
- How illustrations are related to written text or oral presentations
- If and how illustrations bring about an adequate reasoning and what kinds of further discussions (if any) they lead to
- The transparency of the illustrations and which components the pupils find easy to understand and which may cause problems.

The interviews with the teachers will be analyzed with respect to the teachers’ intentions and expectations on the illustrations’ potentials to explain a learning content, as well as to their own interpretations of the illustrations.

**Preliminary results and discussion**

The suggested paper and presentation will partly build upon results from the analyses of the pilot studies (in which we are at the time of writing heavily involved) but also partly on preliminary results from the main study, which, at the time of writing, will be launched within a few months. So far, the analysis shows, for example, that even when illustrations seem simple, they may not be fully transparent and self explanatory, and that some kind of guidance from a more experienced interaction partner is certainly needed. Teachers sometimes do not reflect very much on accompanying illustrations in textbooks and multimedia but take them for granted.

The discussion will not only reflect on the analyses and results per se, but also focus on the pedagogical implications of these results.
References
414. Adaptation to the social environment of preschool children with mild deviations of mental ontogenesis

Alfiya Sultanova - Irina Ivanova

The modern society under conditions of globalization, technical progress and the big information stream makes high demands to the child practically on each of stages of child’s development. In this situation the social adaptation is complicated even for absolutely healthy children. Meanwhile, the situation is aggravated with that the share of such children steadily decreases. For example, over the past ten years the number of disabled children has doubled. Among present day first graders there are only half as many completely healthy children (4.3%) compared to children of the same age in the last century (8.7%). According to recent data, conditionally "absolutely healthy" children in Russia makes up only 21.4% of all school going children (Federal State Statistics Service). For this reason Now the problem inclusive formations of children with problems in development is one of the most discussed. There are many researches in psychology, sociology, pedagogy devoted to a question of realization of the right to formation and rehabilitation of special needs children. However in practice in our country socially-educational integration of disabled children is reached only in rare instances and, as a rule, by many efforts applied by parents and some experts, or is carried out in non-state educational institutions. In our opinion, this problem won't be solved in the nearest future in connection with absence of the qualified pedagogical personnel and adequate state financing. At the same time, it is necessary to pay attention to process of integration which is occurring for a long time in educational institutions. We mean the "latent", spontaneous integration of children with mild pathology of mental development. From our point of view, this widespread phenomenon is underestimated by the specialists working in an education sphere. Teachers, school psychologists, tutors of preschool educational institutions note augmentation of number of children with difficulties of training and adaptation, but they not always explain it by the features of a child's mental ontogenesis.

In general, the research of a problem of social adaptation of children with mild deviations of mental ontogenesis is necessary for the following reasons:
– the number of children with mild deviations of mental ontogenesis is much more than the number of children with severe deviations;
– these children are the least studied;
– they are very seldom put under medical observation;
– they are not officially registered as disabled children and, so, the social environment’s demands on them are quite tough;
– there is lack of programs of psychological help for these children.

Thus, the purpose of this study was to analyze the features of adaptation to the social environment of preschool children with mild deviations of mental ontogenesis.

We studied 102 children of 4-6 years. The children were divided into 2 groups: 1) Children with mild deviations of ontogenesis of psychic functions (62 pers.). Most of these children had indications of the pathology of pregnancy and childbirth in their medical histories. So, we can conclude that perinatal pathology was the main reason of deviations of their mental development.

2) The control group – healthy children without disabilities in their development (40 pers.). We used the following methods: neuropsychological Luria's tests, parental and kindergarten personnel surveys, children sociometric methods, drawing methods, modified color test.

We considered it is important to investigate children of 4-6 years, because in the most cases children begin to attend kindergartens in this age. As a rule, in our country kindergarten is one of the first "steps" in socialization of a child, the beginning of the process of his integration in a society. Often a child leaves his habitual social environment (family) and meets necessity of adaptive activity for the first time. It demands achievement of certain level of a mental maturity, mechanisms of mental regulation of behavior and activity. The data of our research show that children of the main group don't correspond to these demands. Essential difficulties of adaptation at these children were observed approximately in 12 times more often than in control group (95 % and 8 % accordingly). They have stable difficulties of communication and interaction with other children and with the adults who are not members of their family. Children of this group experience difficulties at the beginning of visiting of preschool educational institution. As a rule, it is shown in refusals of the child to go to a kindergarten, in "hysteric" and the whims demonstrated to parents. By coming to kindergarten, these children cry, demonstrate negativism and aggression in relation to other children or become unsociable. They often show an excessive disinhibition, hyperactivity or, on the contrary, a sluggishness, slackness. Most children of the main group expressed their dislike of attending kindergarten. 15 % of parents of children with mild deviations in the development have decided to refuse kindergarten services. They said that after kindergarten visiting a child's temperature rose, and the child became nervous, whimsical and couldn't fall asleep. All parents of children of the main group have expressed concern at the level of development of communicative and interactive skills of children. Also many parents underlined that they have faced these complexities for the first time.

Research results showed that besides the mild lag in the development of mental functions the
various emotional disorders was typical feature for these children, such as:

– Increased or decreased emotional sensitivity (78%). Most children in this group have increased emotional sensitivity. The following trend is often observed: a combination of increased emotional sensitivity, sensibility and vulnerability in relation to themselves with a rather low compassion, emotional empathy (compared with the control group). Parents and Kindergarten teachers report low emotional sensitivity of such children towards others – to other children, family members, fairy tale characters, cartoons, etc. These features affect the process of communication and interaction; communication by these children is more superficial, they show a decrease in productive interaction and the formation of deep emotional ties.

– Emotional lability (58%): the child’s mood is unstable, rapidly changing under the influence of minor events. These children tend to display bright, but superficial and fleeting emotions; many children have a tendency towards tearfulness. Despite the emotional lability, these children have a tendency for stereotypical emotional responses when adapting to new conditions.

– Ease of emergence and consolidation of fear (42%; 10% in the control group). Often, there is a mismatch of fear intensity to its cause, increasing the duration of fear as well as a tendency of general state problems (sleep, appetite, and well-being) and the child’s behavior under the influence of fear.

– Aggressiveness (36%), negativism (40%). These features are five times more likely to be observed in these children than in children in the control group. These children are characterized by a combination of aggressiveness towards other children and negativity to adult family members and Kindergarten teachers. The children are not compromising to other children in games and tend to quarrel and fight. It is often typified by affective explosions with aggressive manifestations, with reactions of protest towards adults, especially when they are trying to regulate the activities of the children.

– A decrease in the feeling of closeness (40%), which is manifested in establishing contact and communication with adults and other children.

In general, emotions of these children do not adequately perform the regulatory functions of behavior and interpersonal relations. The adaptive function of emotions in affective control is more dedicated to vital needs and the need to maintain rather stereotypical interactions with the particular environment. This in turn leads to a decrease in stress resistance in children and to difficulties in social adaptation.

Also the neurodynamic disorders in the form of inertia, reduced efficiency, distortion of activity tempos and a long "warming up period" of varying degrees was noted in all the children of group 1. This disorders threaten grave consequences for the social adaptation of the child. Due to inactivity,
inertness, sluggishness or hyperactivity and other characteristics these children experience difficulties in games with other children and in studying lesson material with their teachers. It has a negative effect not only on the process of cognitive development, but also on the developing self-concept of the children, at their level of acceptance by other children of similar ages and their social adaptation.

We believe that the difficulties of adaptation to social environment arise at these children not only owing to features of their mental development. Both parents, and kindergarten teachers often do not understand the reasons of difficulties in education and upbringing of the child. Very often parents and other family members apply overprotection to the child; and the teachers accuse parents of poor upbringing and believe that these children are spoiled, and they do not hold an individual approach to interaction with each child. These factors aggravate disturbances of adaptation to social environment at these children.

From our point of view, the special psychological work both with these children, and with a social surroundings is necessary. This work could be solve real problems of social adaptation and also prevent school problems in the future.
The family class is an intervention form inspired by the Marlborough-model (Asen et al. 2001; Knudsen 2009), and it is initiated to work on inclusion in the general comprehensive school. The family class is build upon systemic theory and network theory. In relation to the systemic theory the professionals tries to work across the traditional separation of general and special education (Morin, 2008) by bringing many parties together in a joined intervention. In this way, cooperation among the different parties round the child is seen as essential to promote inclusion.

The family class is based on parental involvement: that is, in order to be enrolled in the family class, the child must be accompanied by one parent. This includes besides the child and the parents: the general teacher, the family class teacher, the psychologist, the leisure-time teacher and if relevant other parties in the intervention.

In my studies of this intervention I have followed different families attending the family class and their possibilities for participation. The empirical studies include participant observations (DeWalt & DeWalt, 2002) in the normal school classes and in the family class and interviews with the children, with the professionals surrounding the children: teachers, family class teachers, psychologists, and with the parents.

The theoretical frame of the project is critical psychology (Højholt, 2008; Dreier 2008). This theoretical frame provides analytical categories, which open up for particularity in situations, differences according to different positions and perspectives and sensitivity to how subjective/individual possibilities and limitations must be seen in relation to the conditions for participation.

In the fieldwork, I was struck by the fact that the parents participate very differently in the family class. In some cases, new possibilities are created, and in some cases the different parties in the cooperation; the professionals, the parents and the children end up frustrated and in conflicts where all parties feel powerless, and some families even ends up excluded from the school. Therefore, I wish to explore the dynamics of cooperation about family work with particular attention to the position of the parents.

Cooperation in the family class – the parent’s perspective

In the paper I will take an outset in empirical findings in relation to two cases. One case shows some of the potentials in the family class work while the other case inhabits dynamics of impotence and exclusion.

Through the presentation of these cases I will try to show how parental involvement in school is not
free of dilemmas. In interviews with parents about their reasons for joining the family class, many parents expressed that they had found that the family class might be the last chance if the child were to remain in an ordinary school. Thus a classical dilemma in helping intervention is revealed: the dilemma between help and control (McNiel, 1986; Rose, 1999; Schwartz, 2007).

On the one hand, family work is aimed to help children and families with the challenges in their everyday life and in school to help maintain the child in the ordinary school. On the other hand, there is an element of control when the parents feel that it might be their last chance and the related experience that they are forced to enter the family class work.

The dichotomy between help and control becomes a process which effects the cooperation and what the parents are directed at in the cooperation. When a mother attending the family class says: "I stand up for the sake of my children", she also reveals that one consequence of this intervention is that not only the child must improve: the mother also has to be "a good enough mother."

The cooperation in the family class allows for different positions and disposal for different parties. The parent’s position in the cooperation is a double relation between the possibility of receiving help and processes of control. Returning to the dialectical argument that we as human beings in the world and in concrete social practice are situated in a double relation: as active creators of life conditions and live our lives in relation to these life conditions (Holzkamp, 1983; Dreier, 2008) I wish to point out that the different parties in this cooperation participate and act with different kinds of possibilities. This is related to that the different parties have different tasks and are placed differently in the cooperation which is the reason for different ways to enter and be part of the cooperation in the family class.

As the cases in the paper will show we cannot expect a common understanding and goal to be created just because all parties are involved. In a joined intervention, it seems important that the definition of the common is explored through an acknowledgement of the differences between the parties involved being aware of differences in positions and possibilities.

Intending to involve parents as a resource in a process of empowerment is not realised just by inviting parents into the school. There are huge variations and differences in the way parents participate in the family class and work with parent involvement in school must therefore explore the parents possibilities for participation and contribution to the cooperation being aware that the parents all in their participation must navigate in relation to dynamics which are linked to the dichotomy of help and control.

References:
Asen, A., Dawson, N. and McHugh, B. (2001). Multiple Family Therapy, the Marlborough Model
The induction of novice teachers in schools is especially problematic for two main reasons. First, the distance between universities and schools is very wide, implying an important disconnection between the activities that take place in each context (Coll, 1999). Second, the nature of knowledge used and constructed at university (knowing about) and schools (knowing how) is very different (Edwards and Collison, 1996).

This difference in knowledge also implies the problem of transfer, i.e., the relation between the knowledge that novice teachers learn and use at university and the knowledge they use and learn in schools (Tuomi-Gröhn and Engeström, 2007).

The transition of novice teachers to schools has been addressed by several different psychological perspectives which have different theoretical conceptions of teaching and learning processes and which have significantly influenced the field of teacher training. Among these psychological approaches are notably, the perspective of Conceptual Change based to some extent on a Piagetian explanation of learning and the perspective of the Communities of Practice based on the “situated learning” approach initiated by Lave and Wenger (1991).

However, in spite of the impact that these have had on training and induction programmes, in this paper we propose a theoretical option for studying the problem of novice teachers’ transition to schools, strongly based on socio-cultural psychology, particularly on the work of Vygotsky. We describe this theoretical approach according to three different criteria: the conceptualisation of learning, the role of teaching and the nature of knowledge. Our approach is in several ways similar to the approach of Edwards (1996, 1998, 2009) and Coll, Colomina, Onrubia, and Rochera (1992, 1995).

Learning to teach is a long and complex process that does not finish when initial training has ended but continues throughout the teacher’s professional life (Bullough, 1997). It therefore becomes a process that requires assistance and support particularly during the transition period to the profession.

From a Vygotskian perspective, learning is a socially mediated process. A process that is not possible without the existence of a Zone of Proximal Development (ZPD), in which the learner (novice), together with others, can use the knowledge that he/she is unable to use alone. This joint construction in ZPD is indispensable for individual learning (internalisation), according to the genetic law of cultural development stated by Vygotsky (1997). Therefore, as we conceptualise learning as socially mediated, the role of others, particularly the role of an expert, is crucial (Tharp
and Gallimore, 1988). In this approach, the mentor or expert teacher is the one who provides assistance to novice learning; who provide the scaffolding to help a novice teacher develop his/her teaching task with more competence. The nature of this educational assistance provided by experts - mentors or more capable peers- varies throughout the learning to teach process, according to the situations in which it is provided. This educational assistance materialises in what, according to Coll et al. (1992, 1995) is called mechanisms of educational influence that originate in the context of the joint activity that the novice and expert perform for a content or task. These mechanisms are the progressive transfer or responsibility and control and the progressive construction of shared meanings.

In this context, the significant others are those with whom the novice teacher jointly uses knowledge. A knowledge which we conceptualise as situated and distributed. Situated because its use is always defined by the current and physical conditions of the setting in which the knowledge is to be used; knowledge cannot be separated from the context in which it is constructed and used (Lave, 1988) and therefore, is always defined in dialectic relation to the context in which it is created.

The distributed nature of knowledge also has important implications in teacher training and in the novice teacher transition to school. We conceptualise knowledge as distributed because the ways of using knowledge in these settings are distributed and shared in the corresponding communities of practice -i.e. the communities of practitioners who act in these specific settings. According to Pea (1993), the distribution of the intelligence that originates during human activities has, in addition to a material dimension -distribution in the environment-, a social dimension, in other words, it is distributed among the people in the context of the joint action.

Understanding the nature of knowledge as distributed implies that expertise cannot be found in single members of the community, but is distributed among the community as a whole. This also implies that, from our perspective, learning not only needs novice teacher and experts’ to join activities, but also novice teachers and the community to join activities. Thus, the educational assistance provided to a novice teacher is also distributed (Coll, Bustos and Engel, 2009).

Educational assistance therefore goes beyond being considered as help aimed at promoting the active participation of the novice within the school community. It is assistance that becomes essential for the novice’s learning and for the joint construction of knowledge in the school context in which he/she is immersed. In this sense, help from mentors, in tutoring work situations and from other colleagues, in situations of collaborative work, plays a key role in their professional development.

Within our theoretical context, participation in socio-cultural practices that are relevant to schools
become exceptional opportunities for novice teachers to interact and learn, where the discourse between participants within the wider context of joint activity that experts and novices develop regarding a content or task as a vehicle for constructing knowledge, becomes our focus of analysis. The study of the educational influence on diverse situations of professional practice is therefore essential.

In summary, we need an approach that emphasises the study of the assistance or educational influence that is provided to novice teachers in their practical context. Therefore, it is essential that the two contexts involved in the period of transition to the profession - the university and the school - be considered. Rethinking the relations between these two contexts is vital in order to create new synergies that enable learning opportunities to be created for ultimately improving the quality of the teachers’ education (Zeichner, 2010).

References
On the theoretical background

This work is inscribed in the line of researches on teaching knowledges, regarding the workplace as the context in which the mobilization and construction of these knowledges take place, grounded on both their experiences on teacher initial and continuing education and on challenges of teaching practice. This line of investigation gains strength in the Brazilian literature on teacher education from the 1990s onwards, under the influence of an approach that understands the teacher as an active social historical being that mobilizes professional knowledges, produced in her pedagogical practice, and understands teacher education in a perspective that includes, but goes beyond, the university studies.

Based on the works of Gauthier (1998), Tardif (2002) and Therrien (1997, 2002) we highlight that the teaching knowledge is formed by plural and heterogeneous knowledges that are appropriated, transformed and created constantly by the teacher in the context of the classroom to guide her actions. From the works of the Mexican researcher Mercado Maldonado (1991, 2002) we understand the teaching knowledges as historical, dialogical and socially constructed. The author grounds her work on Bakhtin’s thought concerning the dialogical character of the word and in Heller’s conception of everyday life. Maldonado explains how the past experiences are attached to the present life of the teachers and how they learn, transform and build knowledges. For her, the students’ voices have a special place in the actions and decisions taken by the teachers. Lastly, but not less importantly, this study found in Vygotsky's (2004) conceptualization of creative activity a valuable conceptual tool to describe and deepen the analysis of the teaching knowledge, following the steps of Zibetti’s work (2005). With Vygotsky (2004) we regard that the human activity cannot be reduced to the repetition of the past or to the reproduction of the existent. Grounded in their life experiences and confronting them with the everyday reality, teachers re-elaborate, modify and create something new, according to their needs, interests and the changes that occur in their environment. The human activity, according to the author, can be of two kinds: reproductive – related to the memory – and creative or combinatorial – that which involves imagination, the human capacity to transform. In his own words:

"All human activity of this type, activity that results not in the reproduction of previously experienced impressions or actions but in the creation of new images or actions is an example of this second type of creative or combinatorial behavior. […]

If human activity were limited to reproduction of the old, then the human being would be a creature
oriented only to the past and would only be able to adapt to the future to the extent that it reproduced the past. It is precisely human creative activity that makes the human being a creature oriented toward the future, creating the future and thus altering his own present." (2004, p.9)

De Certeau's (1994) concepts of strategies and tactics offered further conceptual elements to understand teachers’ and other school staff’s ways of dealing with the challenges posed by their daily practice and by their different positions within the school structures.

The research question and the objectives of the work

The central question that oriented this research can be formulated as follows: what knowledges are mobilized and created by teachers in their pedagogical practice to face the challenges brought about by the implementation of schooling in cycles with continued progression?

The methodology adopted followed orientations given by the ethnographic perspective by Ezpeleta & Rockwell (1988) and Rockwell (1989) with the purpose of:

a) identifying the challenges that the schooling organized in school cycles (as opposed to the previous scheme of series) brought to the teachers;
b) identifying and describing the ways teachers managed to deal with their difficulties in this new scenario to assure students’ learning;
c) describing and analyzing how the pedagogical work of teachers is carried out under this new scenario from the perspective of the teaching knowledges.

The fieldwork was carried out during 2007 and 2008, comprising 32 visits to a school (two teachers in two classrooms). A public school was chosen in which the implementation of the proposal of school cycles had a relatively long history. That decision led us to a school that belonged to the municipal school system, since the program of school cycles was implemented there in 1992. The school chosen had a stable school staff and there was in it a practice of collective discussion or/and a project in course related to the issue of school cycles. These features would allow us to observe a school in which these issues would be in the agenda.

Final remarks

The research briefly presented here aimed at identifying the knowledges mobilized and constructed by the teacher in her pedagogical work to face the challenges brought about by the implementation of schooling in cycles with continued progression. We start from the assumption that the implementation of school cycles brought new challenges and new demands to the teaching work. As historical, cultural and social beings, teachers develop strategies and tactics to overcome or minimize the difficulties, to respond to the new demands imposed by the school cycles, and to try to promote the students learning.

The bibliographical review of the Brazilian former experiences of school cycles indicates that the
theme of school cycles and of continuing progression is not new. Since the 1920’s arguments can be found in this direction. A large academic production dedicated to the possibility of schooling being organized in school cycles with continuing progression was identified, as an alternative to face the chronic problem of school failure. However, after more than fifteen years of the implementation of school cycles we observed in the school daily life a scenario of miscegenation of series and cycles that invite us to reflect about some issues: the way that teachers appropriate the logic of the teaching organized in school cycles within a context of work that is that of the series; the manner how they act in this scenario from the knowledges they already have built; the reasons that make them reconsider and recreate their knowledges.

In this scenario of miscegenation of series and cycles we identified challenges with respect to: the need of ensuring the continuity of the pedagogical work between cycles; the need to involve the pupils in the classroom activities without the possibility of the hitherto common threats of repetition; dealing with the heterogeneity of the groups of students, particularly regarding the process of literacy; rethinking their beliefs, conceptions, pedagogical practices and knowledges shaped in concrete settings of work within a logic based on series.

Finally, we call attention to an important, but not quite new, finding. When analyzing the pedagogical work of the two teachers followed in our study we noticed that despite some similarities between them regarding years of teaching experience, the constitution of their knowledges had singularities attributable to differences in their personal and professional history. In this sense, based on the analysis of the personal and professional trajectories, we understand that the study of the teaching knowledges involves recognizing them as plural, heterogeneous, dialogical and historically built. We understand that the social and educational changes, the professional itinerary made by the teacher in the different school networks, each one with its norms and particularities, are important aspects that cannot be dismissed from this discussion.

References

MERCADO, R. Los saberes docentes en el trabajo cotidiano de los maestros. Infancia y


In this paper we analyse the uses of the new media by some Portuguese families with the fourth schooling level, which is the equivalent to elementary school. The families were interviewed within the project "Digital inclusion and participation. Comparing the trajectories of digital media use by majority and disadvantaged groups in Portugal and the USA" (Ponte, Azevedo, Straubhaar). Our main goals consist in analyzing and understanding the uses of new media by individuals with fourth grade or less, taking into account constructs like techno-capital, techno-competencies and techno-dispositions (Rojas, Straubhaar et al., 2010); and exploring the empirical dimensions of this subject within the ongoing research, carried out in Portugal and in the USA.

The literature review points out that educational and social levels are important dimensions to the interpretation of the phenomenon of digital inclusion (Reza, 1998, in Rojas, Straubhaar, Spence et al, 2010; Scribner, Cole, 1981) and its associated problems, such as the digital divide. However, specific groups tend to represent secondary roles, for example, groups with low levels of schooling. If we contextualize this issue in the Portuguese reality, we found that this group deserves special attention due to the low levels of schooling of the adult population. Indexes of schooling of the Adult Portuguese population (in 2005) show that 29.2% have the fourth grade and that 5.7% can not read nor write. Alongside this scenario, the statistics produced by agencies such as Obercom (2009) on the use of ICT and the Internet, show that, in 2008, 52% of the Portuguese population never used the Internet.

The theoretical framework in which we sustained the present investigation is the one defended by Rojas, Straubhaar et al. (2010). We believe it is important to understand the meaning of specific concepts so we can also relate them to the digital divide. Therefore, techno-capital is understood as “a specific form of cultural capital encompassing the acquired knowledge, skills and dispositions to use information technologies in ways that are considered personally empowering or useful”; techno-dispositions are “people’s dispositions to technologies”; and techno-competencies are ”the acquired skills for and knowledge about ICTs”. (Rojas, Starubhaar et al., 2010: 8-9).

In this study we also use contribution of some concepts developed by Bourdieu. To analyse the perspectives of the sample concerning technologies, taking into account their family and school experiences, we focused the idea of habitus as “a set of dispositions that create “durable” and “transposable” practices and perceptions over a long process of social inculcation”, and cultural capital as “the possession of certain cultural competencies and bodies of cultural knowledge,
typically acquired from parents and schooling, that provide for distinguished modes of cultural
consumption” (Bourdieu, 1984, in Rojas et al, 2010: 4-6).

13 women and 4 men made part of our sub-sample- drawn from the global sample of 65 families
that have been interviewed in this project. The average age of individuals is 59,3 years (the
youngest is 43 and the oldest is 90 years old). 16 of them have the 1st cycle of schooling (fourth
grade) and one has the 2nd grade (2 years of schooling). We noticed that the use of
media/technological devices by women are of low frequency and use.
The analysis of the 17 interviews was carried out considering 3 dimensions:
• Family experiences
• School experiences
• Skills and uses of technology
Three important insights have been brought up, which we consider to be worthy of thinking and
exploring:
• We found some controversies related to the ICT and Internet democratization versus the
generational, economical and educational divide on the access and uses of digital tools.
• When we talk about inclusion and digital divide we must be aware of the multidimensional reality,
such as generational, economical, educational, cultural and historical gaps.
• We also should be aware of the roots of digital divide within the processes of social exclusion.

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This paper discusses the central importance of methodological choices that organize the design and conduction of an extramural project – Reading and Writing in Different Knowledge Areas (Leitura e Escrita nas Diferentes Áreas- LEDA). The project was conducted in an elementary school (first to fifth grades), located in a poor district of São Paulo, the biggest city of Brazil, and aimed at creating collaborative and critical contexts for learning and development for all participants (school teachers, principal, coordinators and the research group). It presents novelty and innovative values, in terms of methodological choices in intervention research organization, to create collaborative contexts for all participants’ critical understanding and transformation. The focus is on ways to conceptualize reading and writing theory and practice in the daily classroom activities and its relationships to students’ difficulties in reading and writing.

The base for the centrality of methodological choices is Vygotsky’s (1930/1978, p.27) discussion of “work method” as “simultaneously a prerequisite and product, a tool and result of the research”. In other words, it is creating mutual zpds (Vygotsky, John-Steiner, 2000, Holzman, 2009) for participants’ negotiation toward the comprehension of cultural and historical context to understand students’ reading and writing problems, and the crucial importance of reading and writing to citizenship constitution. Vygotsky’s discussion is based on Marx and Engels’s (1845-46) view of method as materialistic, dialectical and historical, focusing on real individuals, their actions, language, comprehension, and material life conditions to new totality production. A central issue to be considered in terms of methodological choices is the collaborative organization that may permit critical reflection to take place by using a critical-reflective-thought-organizing type of language (Wertsch, 1998; Liberali, 2009; Magalhães and Fidalgo, 2007). In this frame, contradictions may allow teachers to internalize means with which to reason and act as an initial step towards transformations that go beyond the “what is” to focus on “becoming” (Holzman, 2009). The focus on reading and writing was chosen since this is the one big problem in public schools in Brazil. The need for transforming the ways teachers understand and work with reading and writing in public schools is not new. It is related to a political and cultural-historical complex network that goes from educational public politics and teachers’ professional education to schools usual individualistic and reductionist organization. In fact, the school focused on here was poorly evaluated by IDESP, a Sao Paulo state indicator of public schools teaching-learning quality, based on students’ mastery of
reading and writing.

Based on social- cultural-historical activity theory (SCHAT), this project was designed as a network of five activity systems (Engeström, 2008, 2009), whose objects partially share theories and practices of reading and writing, organized as a creative chain (Liberali, 2009). That is, the meaning focused on in an activity system, will be shared with new partners through the senses (Vygotsky, 1934) brought to another activity system. Therefore, it will enable new meaning production in this activity system that will carry some aspects created in the previous one. This presupposes that “features of the totality can emerge in the production of new creative outcomes and of its creators” (Liberali, 2009, p.102). This organization was thought to allow the focus on school complexity, normally neglected in research conducted in schools, given by culture, historicity and political issues that shape differently how needs, theories, values, discourse and actions are understood. The methodological choices were also thought to work with school participants’ social responsibility toward a new role in collaborative and critical interactions to knowledge construction.

The network was organized with five activity systems: (1) research team activity system – that involves the university team, that, twice a month, meet to plan and evaluate the work developed to understand how collaboration and contradiction organized the contexts created, teachers’ theories of reading and writing and students’ problems, as well as the role of reading and writing in classrooms daily practices; (2) Teacher Support Teams Activity– TST (Daniels and Parrila, 2004) – that involves, twice a month, at school, researchers, a group of teachers and the school management team to provide teachers with an autonomous way to understand, discuss and act with reading and writing in order to work with their colleagues in other school meetings thought for teacher continuing education (HTPC); (3) management school team activity system - formed by researchers, principal and coordinators – that, twice a month, meet, at school, to discuss ways to work with teachers in school meetings, classroom observations to evaluate their work with reading and writing, as well as to plan, with TST, how to work in teachers’ official continuous education meetings (HTPC); (4) Teachers meeting activity system (HTPC) that involves the management team, all the teachers of school, to share with them the work on reading and writing developed in the other activity systems; (5) Cultural activity system – that is thought to be organized by students under the supervision of teachers and coordinators as a result of a project developed by researchers, the school teachers with the community around the school toward a cultural work. For this paper we will focus on the activities systems 2 and 3.

Three research questions will guide the analysis and understanding of the importance of methodological choices for learning and transformation toward reading and writing:

(1) What is the organizational pattern in participants’ interaction in the two activity systems focused
on?; (2) How does it allow a collaborative critical reflection to take place? (3) What kind of transformation was observed in teachers’ reading and writing theories and practices?

Data from the TST teachers and researchers meetings and from the management team and researchers meetings were videotaped since April 2010. All data produced were transcribed and analyzed for the understanding of the importance of theoretical-methodological choices since the beginning of the intervention. Data analysis included lexical choices that defined the thematic content produced during all the meetings and turn taking in order to look for voice distribution and the interactional patterns to new meaning production. Results revealed that the interventional methodological organization created an important context to all participants learning and development, since it provided several different possibilities to discussion on the ways reading and writing were understood and based the classroom practices, as well as students’ reading and writing development. A collaborative pattern organized participants’ interactions and created teachers, principal and coordinators contexts for assuming greater risks, establishing contradictions and conflicts through negotiation. The critical reflective pattern enabled the transformation of the ways participants conceptualized reading and writing theory and organized reading and writing in daily classroom activities.

References


This paper aims at presenting results from an inter-university research project called “Universal Project” (Liberali, 2010), which has been investigating the role of argumentation in Teacher Education. The theoretical background is argumentation as a basis for the creative production of new meanings in different activities (LEONTIEV, 1977; VYGOTSKY, 1930 e 1934). It will focus on the role of argumentation in giving participantes a more engaged and effective participation in critical teacher education programs. The presentation will highlight how the Universal Project has been working to developed a networking of researchers with the focus to study and use argumentation in teacher education activities. There are researchers from different universities of Brazil: Pontifícia Universidade Católica – São Paulo (PUC-São Paulo); Universidade Estadual de Londrina (UEL); Universidade Federal de Juiz de Fora (UFJF – Minas Gerais), Universidade Federal de Pernambuco (UFPE- Recife), Faculdade de Tecnologia de Mogi das Cruzes (FATEC – Mogi das Cruzes), e Universidade de Sorocaba (UNISO). This dialogue offers the possibility to construct a new view over the modes of understanding and acting in teacher education.

The Universal project has been constructing a theoretical-methodological basis about the argumentation studies in varied contexts of teacher education and offers the chance to reconsider other projects related to teacher education. At the same time, it empowers the culture of collaboration and creativity among the involved ones who become more creative to deal with educational problems in teacher education in the Brazilian context. The activities developed by the researchers and their participants integrate teaching, research and acting in society by means of extra mural programs and a wide production of papers. This project implies the development of solid bases, in the national area of Brazil, to implement proposals of different modes to observe and transform the context of teacher education.

The Universal Project has a macro question to be answered: Can argumentation work as a mediation artifact in the constitution of activities in critical-creative teacher education? This question is subdivided into two other questions: How is argumentation worked with in teacher education programs? And Which are the effects of argumentation in the generation of zones of mutual collaboration? It is a longitudinal, descriptive and interpretative research with a critical and applied purpose.

The paper will also focus on the discussions which have been carried out by means of a virtual plataform and semester meetings in which the participants can inform and discuss what they have
been developing in an analytical and applied way of how argumentation has created bases to a critical teacher education in their contexts. The data which will be presented have been selected from a data bank from the local projects following the necessary ethical concerns from each university ethical committee. The analysis of the data has been done following the dialogical perspective of the non application of mechanic categories (Brait, 2006), which include the careful reading of the data, a detailed description of the contexts and na analysis of the thematic content in the selected parts and the evaluation and use of categories to analyse (2010).

Initial results indicate that the Universal Project has integrated researches from different parts of Brazil, and the intentional use of argumentation can develop collaborative and creative practices in teacher education programs. The intentional use of argumentation in the classroom has triggered an immense change of paradigm among the roles of the students in the classroom. It has also enlarged the investigatory community related to argumentation in teacher education.

To exemplify the results, examples will be given related to how the use of intentional argumentation has improved: (a) the critical understanding of the forms of questioning, presenting, counter argumenting in order to build activities of reproduction or construction of creative meanings; (b) a table of categories to understand the movement or argumentation inside meaning building situations in school contexts; c) the understanding of the role of the linguistic-discursive characteristics to interpret and transform activities in school context.

As well, the creative changes related to the Universal Project will emphasize the transformations in the macro áreas of a) critical reflection in teacher education; b) beliefs in teacher education c) construction of the Professional identity of the teacher; d) objects of reflection e) technical and pratical knowledge f) new Technologies and of g) pre-service teacher education h) education of critical agents based on argumentation.
In this paper we analyze parents and teachers uses of ICT and Internet in rural contexts, taking into account important constructs like literacy and appropriation (Scribner and Cole, 1981; Cole, 1996).

Wireless Internet, mobile communications are essential tools of the new communication ecology that has changed interpersonal, historical-cultural and economical fluxes of the network (Martin, Nakayama & Flores, 2002; Alsina, 1999; Mattelart, 2005). The cultural and mediational role of digital artifacts have been studied by Cole (1996), Vasquez (2003), Warschauer (2002; 2003), Wertsch (1993), (Cole & Monereo, 2008) and others in a historical-cultural perspective. Cole and Vasquez programs research have privileged: (1) the exploration of local specificities for educative intervention; (2) training and leisure play- the mixing/inking of education and play as a means to engage children in learning not only academic, cognitive and social skills but also acquire digital literacy; (3) Collaborative culture of formation and play; (4) Proximal association between learning and personal development. Partnerships between different local agents in different social areas - education and social, cultural and technological ones- are “contact zones” (Vasquez, 2003; 2009) that were created to offer new opportunities for learning in a multigenerational, dialogic and collaborative perspective (Bakhtin, 1995; Vygotski, 1986).

In many countries, we can notice that dissemination of digital technologies is motivated to improve individual and group quality of life and also to prepare them to the challenges of digital society. However, we can notice that there are many constraints which limit expected results (Warschauer, 2002) and very frequently we can identify those constraints in different technologies appropriation processes in the family and at school.

According to Warschauer (2002) the “original sense of the digital divide term -which attached overriding importance to the physical availability of computers and connectivity, rather than to issues of content, language, education, literacy, or community and social resources - is difficult to overcome in people's minds”. However, access to ICT is enclosed in a complex group of factors like physical, digital, human, social resources and relationships. Literacy and education, content, language, community and institutional structures must all be taken into account if meaningful access to ICT is to be provided. A binary partition between “the haves” and the “have-nots” is thus imprecise as it fails to value of social resources for different groups (idem). So the focus must be on the "transformation" and on the development and not on the "technology".
Literacy is a very proximal construct to digital divide and means social practices, involving access to physical artifacts, contents, skills, and social support (idem).

In this research, we have analyzed: 14 parents narratives between 35-45 years old with children who attend primary school and 8 primary school teachers narratives in rural contexts. Qualitative methodologies have been used. Data analysis, still in progress, enhances the presence of high levels of digital exclusion that in many interviewees are very proximal to social exclusion processes.

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In this paper we draw on two sets of data comprised of immigrant youth to the United States, which were collected using a multi-positioning within-person design, in order to explore the theme of this year’s conference concerning the multi-cultural integration and the socialization process in different community practices. The first set of data is comprised of 64 young people from Bosnia & Herzegovina (BiH), 38 youth whose families remained in BiH after the end of the violent ethnic conflicts which ruptured the former Yugoslavia and 26 who migrated to the U.S. The second set of data is comprised of 27 immigrant youth from diverse backgrounds currently living in New York City. The research designs employed in these studies invites the young people to position themselves in diverse ways relevant to inquiry into issues of immigration. This move to interactions in research foregrounds the complex personal orientations, challenges and opportunities facing young people, rather than the categories such as identity that many researchers assume them to fit into as they mature. We extend this practical research method allowing for within-person diversity of positioning around contentious issues demonstrated with children in multi-cultural classrooms in the United States (Daiute et al, 1993; Daiute 2004; 2006), among youth growing up in the aftermath of political violence (Daiute, 2010), and among youth of similar cultural and religious backgrounds separated in later circumstances (Daiute, & Lucic, in press). Data analysis follows the framework set forth by Labov & Waletzky (1967) who identified the useful distinction between referential and evaluative meaning in narrative and further extended to research design by Peterson & McCabe (1983) and Daiute & Nelson (1997).

From the perspective of context embedded youth development in the global world, the method and the findings from our studies will be considered through a conceptual lens of Karl Marx's observations regarding the mediational aspects of technology in relation of a man to society. Much like Marx understood labor process and social relations as based in technology, we argue that ‘socialization processes’ and ‘cultural integration’ can be understood as mediated psychological functions with basis in material circumstances and enacted in language. In this paper, we methodologically build on Marx's observations that technology, and its situated use in human activities- can reveal a great deal about mental conceptions and social relations of its users. We will consider how situated use of language and discourse of youth, much like technology and tools in the hands of the worker, enacts and thus reveals the process of their development.
Similar to the interdependent relationship between the interpersonal tool and the intrapersonal sign which constitutes the higher psychological function (Vygotsky, 1978), Marx sees technology as internalizing the relation of laborers to their social relations, labor process and daily life. Thus, given that these social forms are internalized in the technology, the study of technology can also reveal and explain them. In footnote 4 in Chapter 15, part 1 of Capital Vol. I, Marx notes that “technology reveals the active relation of man to nature, the direct process of production of his life, and thereby also lays bare the process of the production of the social relations of his life, and mental conceptions that flow from these relations (Capital, Vol. I, p493)”. Our studies, both methodologically and practically, highlight the ways in which language and discourse are situated to meet the needs of socialization and cultural integration of immigrant youth, similarly to the ways in which technology is situated to meet the needs of the labor process. Thus, we believe that the study of language and discourse can “reveal the materiality of meaning through the active relation of immigrants to the new society and lay bare the direct process of their development” - to borrow Marx’s terminology.

While the two groups of young immigrants in our studies do not share much in common aside from being young, born abroad and currently living in the United States the thread that binds them together is socio-culturally embedded meaning which scaffolds their discourse and narratives. Our research shows that immigrant youth use the material available in their socio-cultural context in order to shape narratives and discourse, address their interlocutors and audience, and communicate meaning in interpersonal relations. The research design with Bosnian youth separated by war invites them to narrate conflicts from 1st person, 3rd person, and fictional perspectives, thereby inviting them to engage with the issue of conflict and their audiences in different ways. Analyses of the plot structures (conflict issue and resolution) indicate that such variation in addressivity (narrator-subject-audience relations) defines narrative content in specific relation to the physical and symbolic context. Bosnian youth born in the same city under similar circumstances come to perceive, interpret, and deal with conflict in terms of the political, economic, and social situations of their contemporary environments. The second data set is constituted of 27 immigrant youth from diverse background, ranging from Dominican Republic to China, who have also immigrated to the U.S. together with their families and now reside in New York City (Lucic, 2010). During the course of the research these participants were asked to narrate their toughs and feelings about one interpersonal conflict which has occurred over the SMS (text-messaging) and which is situated successively in three diverse socio-cultural fields of activity. The fields of activity are defined as: 1) immigrant’s own cultural group 2) other immigrant cultural groups, 3) host society. Findings show that immigrant youth approach conflict differently based on the perceived cultural origin of their
interlocutor and position themselves differently toward their interlocutor based on the length of time which they themselves have spent in the U.S. Put simply, immigrant youth draw on context embedded cultural origins of their interlocutors to formulate conflict resolutions strategies. Also, recently arrived immigrants who have spent less than 3 years in the U.S. tend to resolve conflicts swiftly and without much hesitation, while those immigrants who have been in the U.S. longer that 3 years tend to consider the thoughts and feeling of their opponents in the conflict much more then the recently arrived immigrants. Both studies reveal the basis in materiality of thoughts and feelings of our participants. Our method shows this materiality to be enacted in language and discourse, and reveal a great deal about cultural integration, community practices and social organization of the society which they inhabit.
The role of play activities in the development of language and self-regulation for new immigrant children

Ana Christina DaSilva Iddings – José Soto-Sonera

This study explored the ways by which the social interactions (between children/children and children/staff members) involved in play activities during an after school program promote self-regulation and language development for emergent-level English Language Learners (ELLs) ages 5-7. The investigation has three main objectives. First, to understand to what extent the structure of play activities support the development of self-regulation skills. Second, to examine the ways by which the acquisition of a new language evolves in an informal environment in which play is a central social activity. Third, to analyze the nature of the social interactions that emerges in such a setting and their role in the development self-regulation and language learning.

Theoretical Perspective

To understand the role of play in learning and development we rely on the larger framework of sociocultural theory, and in particular, the collective works of Lev Vygotsky, Alexei Leont’ev, and Daniil El’konin. For the Soviet theorists, the main purpose of play is to prepare children psychologically for adult life and its surrounding world with fundamental social and self-regulation skills they will need in later life (El’konin, 1999). To overcome the basic contradictions between children’s current capabilities, their needs and desires to understand adult life, and the possibilities and constraints of their social environments, play emerges as a form of semiotic mediation often characterized by a) imagined situations, b) symbolic actions, c) defined roles, and d) implicit rules. Vygotsky argued that the semiotic mediation involved in play activity is crucial to intellectual growth not only because it stimulates the development of abstract thought such as the capacity to represent one thing in terms of another (for example, a broomstick becoming a horse), but also because through the interplay between the material and mental worlds, and the social and personal aspects involved in play activity, children come to re-organize themselves and their environments. In this way, new knowledge, skills, and actions often appear as children imitate and transform actions and activities while projecting themselves beyond their actual circumstances. Thus, it was Vygotsky’s insight that during play activity, children typically make meaning at a level in advance of what they are actually capable (e.g., the time-honored play activity of dressing up as and pretending to be adults). In his words:

“In play a child always behaves beyond his average age, above his daily behavior; in play it is as though he were a head taller than himself. As in the focus of a magnifying glass, play contains all
developmental tendencies in a condensed form and is itself a major source of development” (1978, p. 102).

While play often emerges spontaneously and without adult assistance, the social activity of play offers the necessary supporting structures for development to occur. For example, as children use gestures, language, and sometimes props, clothing, and toys to create imaginary situations, they must act according to the play themes; conform to the implicit rules associated with the play situation, and practice self-regulation skills. From a sociocultural perspective the concept of self-regulation is associated to voluntary control over higher and culturally organized mental functions such as, for example, focusing attention, planning a course of action, solving a problem, or deliberately remembering something. Thus, the ability to self-regulate is highly related to language learning and ultimately with school success.

**Methodology**

This project fundamentally consisted of a series of case studies (Dyson & Genishi, 2005; Nieto, 2000). Through adopting a case study approach to this research we were able to develop an in-depth understanding about the everyday social interactions involving children who are new immigrant ELLs. To do so, we relied on qualitative research techniques that helped the research team to focus on the developmental processes of ELLs while simultaneously foregrounding the complexities involved in the social processes of an afterschool program.

**Setting and Participants**

The setting for this research is an after-school recreation activity program located at a selected Community Center which is funded by the City’s Parks and Recreation Department. The site was selected with basis on neighborhood demographics to ascertain for a population of ELLs. This program counts with trained staff members who plan activities for the attending children. For example, children may rotate through arts and crafts and other indoor activities, including story reading and word or math puzzles, as well as outdoor play, sports, homework time and, occasionally, field trips. Notwithstanding, the clear emphasis is on play and other forms of leisure or recreational activities.

The participants were two staff members of the program and five children 5-7 years of age who were ELLs with beginning levels of proficiency as identified by the program’s coordinators.

**Data Sources**

• Observation/video and audio recording of interactions between children as well as interactions between children and adults – We visited the Community Center once a week and recorded one hour sessions during planned and spontaneous play activity. Ten hours of video-taped interactions were observed and analyzed.
• Interviews – We conducted individual semi-structured interviews with the children at the end of the observations. In the case of the staff members, two individual semi-structured interviews were completed; one interview was conducted at the beginning of this study and the other at the end. Both interviews were audio-recorded and took place in the Community Center setting.

Analysis

In line with Vygotsky’s theoretical notion that human mental functioning is fundamentally a sign-mediated process, a microgenetic level of analysis entails the close observations of precisely how participants integrate a system of signs and symbols (e.g., language) into a task. Following Vygotsky’s analytical method, the research team focused on the examination of linguistic signs, or more appropriately, the word, as the unit of analysis, where the genesis, or the emergence, of higher order mental functions (e.g., self-regulatory functions) and its subsequent growth can be investigated (Wertsch, 1991). Because language is located in the overall historical, cultural, and social context of human activity and is embedded in time, this type of analysis reflects a closely intertwined web of contextual interactions. As such, a microgenetic level of analysis was useful in understanding the ways by which emergent bilinguals use language (i.e., native and target) as well as cultural ways of being for solving problems, planning, remembering, and resolving conflicts during play activity.

Findings

Through the empirical analysis of play discourse the research investigated what participants actually do in their interactions with each other, focusing attention on the development of self-regulation and language learning. Particular attention was placed on the ways by which emergent level ELLs use language and other communication systems to take part in the socioemotional and cultural aspects of play activity in an informal setting.

Preliminary Findings for our study indicate:

• Young ELLs use language (native language and English) purposefully to develop self-regulation during the social activities of play.
• Different types of play activity (i.e., planned, spontaneous) can promote particular kinds self-regulatory processes for young ELLs.
• Adult mediation is instrumental in developing a structured experience of play for children, which promotes greater awareness of language used in play as well as self-regulatory skills that closely resemble those needed in school settings.

As ELLs attending school in the U.S. are generally placed in English-dominant classroom environments where the use of their native language as a mediational means is greatly restricted, these children are often placed in a position of a deficient language user. Instead, this study has shed
light on the ways by which young ELLs uses language (native language and English) during the social activities of play and how those activities promote regulatory processes that are strongly linked with success in school (see also Zimmerman, 2002). A close investigation of the relationships between language learning, self-regulation, and play can provide useful insight for improving school conditions and ultimately for promoting academic achievement for ELL’s.

References


The dialectic of spontaneous and scientific concepts: Analysis of children’s views on the origin of life and humans

José Soto-Sonera - Luis C. Moll

The purpose of this study is to explore the explanations, including religious ones, that school-age children offer for the origins of species and humans to analyze critically Vygotsky’s idea of everyday and scientific concepts. Multiple studies focus on children’s understanding of the biological world and its origin (Evans, 2000; Inagaki & Hatano, 2002); others explore the religious beliefs of children and hypothesize about the genesis of such ideas (Barret & Richert, 2003; Elkind, 1970; Giménez-Dazi, 2006). Finally, other investigations emphasize the development of strategies and models to teach the subject of biological evolution at the elementary level (Hedegaard, 1996). Nevertheless, Vygotsky’s idea of spontaneous (or everyday) and scientific (academic or scholarly) concepts has been poorly studied in the context of the development of biological concepts, specifically those linked to the theory of biological evolution. Moreover, to my knowledge, there are no investigations that explore children’s religious beliefs and biological thoughts in connection to the theoretical frame of concept development posited by Vygotsky. The main question that guides this research is:

What is the nature of the relations between children’s spontaneous and scientific concepts in the case of the origin of life and humans?

The methodology consists of a case study, still in progress, in which four school-age children (6-7 year-old) participate. Two main instruments are used for data collection. First, five semi-structured in-depth interviews (between 15-20 minutes long) are conducted with the children to discuss their ideas regarding the topics of the origin of life and human evolution. Second, during some of the sessions the children will be given time to draw to express their ideas and thoughts about the subject. To generate the discussion a series of pictures and children’s literature related to the theme are utilized. A microgenetic analysis of the data provides a detailed interpretation of the nature and genesis of the ideas that children have about the topics under study.

This research relies on the tenets of cultural-historical theory, in particular, the idea of the development of concepts as visualized by Vygotsky. In the study of the formation of concepts, Vygotsky applied a theoretical approach that consisted of revealing the “dynamics and the development of the process” (Vygotsky, 1934/1986, p. 96) of concept formation. Analogous to the
development of human psychological functions, where there is a progress from lower to higher, the formation of concepts is a consequence of an internal development that moves from elementary to more elaborate levels. Accordingly to the Russian psychologist the concepts themselves evolve and have an “internal history” (Vygotsky, 1934/1999, p. 52) characterized by the framing of two types of concepts: spontaneous and scientific (1934/1986, p. 146). Both groups of concept have a different genesis: while the former results from the child’s personal experiences, the latter is developed at school. Indeed, Vygotsky uses the word spontaneous to illustrate that the everyday concepts are not utilized by the child in a deliberate manner (Vygotsky, 1934/1999, p. 55). This non-deliberate, spontaneous use of everyday concepts implies, according to Vygotsky, that “the child is not conscious of them” (1934/1986, p. 171) and clarifies that in this context “conscious” indicates “awareness of the activity of the mind” (p. 170). Regarding this distinction, an Hedegaard (2007) states that “the difference between the everyday and scientific concepts can be found in the spontaneity or, respectively, the consciousness of the child’s conceptual competences” (p. 248). The deliberate, reflexive and conscious use represents the distinguishing features of academic concepts.

Therefore, the everyday concepts are defined as those concepts developed in everyday settings “in collaboration with others through everyday activities” (Hedegaard, 2007, p. 246). In contrast, the scientific concepts are defined as those developed “in settings with systematic symbolic systems that the child becomes acquainted with in school” (p. 248). Thus, spontaneous concepts are related to “home and community life” while the scientific concepts are connected to “school life” (p. 249).

Despite those differences, for Vygotsky the dialectical relation between the spontaneous and scientific concepts is the crucial point. Vygotsky considers the everyday concepts as a step in developing a scientific concept but, at the same time, the latter modifies the structure of the former. He underlines the interrelation and interdependence between both types of concepts. As Robbins (2001) points out, they “both maintain a multidimensional flow [author’s emphasize] within a dialectical continuum” (p. 61). Moll (2001) emphasizes the intrinsic link between everyday and schooled concepts, at the same time underlining its importance to formal education when affirming that “scientific concepts grow into the everyday, into the domain of personal experience, thus acquiring meaning and significance” (p. 114).

Nonetheless, Vygotsky’s premise of the complementarily and harmonious relation between the spontaneous and school concepts in promoting the formation of concepts should be investigated. It is necessary to explore how both conceptual modes (Hedegaard, 2007) might be interrelated among
different disciplines. For example, this will be the case of the biological theory of evolution and the religious beliefs that represent part of the cultural background of the students. In fact, two of the foremost criticisms of Vygotsky’s thoughts about concept formation came from his own assessment. In Thought and Language (1934/1986) Vygotsky asserts that “we did not study experimentally and in detail the nature of the schoolchild’s everyday concepts” (p. 208). Certainly, it is essential to analyze which are the elements (“the nature”) that constitute and generate the everyday concepts. In a more precise manner, Candelas (2006) asserts that the everyday concepts are those which are “related with personal experiences and are conceived as believes, ideas, or conceptions that depend of the context” (p. 804, free translation). This claim is particularly relevant in the case of children’s view of the biological world.

The other flaw that Vygotsky himself identified is that “the study of scientific concepts was conducted in one category only – social science concepts” (Vygotsky, 1986/1934, p. 208). This is important because he allows criticism of the assumption of a harmonious relation between the spontaneous and schooled concepts. Based on his investigations, Vygotsky asserts:

The developments [sic] of spontaneous and academic concepts turns out as a processes which are tightly bound up with one another and which constantly influence one another. (1994/1934, p. 365)

However, some questions remain: To what extent will the association between both concepts be a complementary one?; Do academic concepts always arise from the spontaneous ones?; and, How will the nature of this relation be in the case of other disciplines and topics (e.g. Biology)? For instance, one study found that “most biology students hold nonscientific views [religious ones] about the origin of life on Earth, even after formal instruction” (Matthews, 2001, p. 407). In this case it might be interesting to study the nature of the relation between those religious ideas and the academic concepts related to the biological theory of evolution.

Finally, this study will shed light on the ways that Vygotsky theory of concept development is applied to children understanding about the origin of the biological world, including human origins. The research has relevant implications for the teaching and learning process in the field of biological sciences.

References
knowledge to scientific schooled knowledge: An ethnographic study in the elementary school classrooms]. Revista Mexicana de Investigación Educativa, 11, (30) p. 797-820.
The writing classroom brings a paradoxical mix of authentic and inauthentic rhetorical situations. Students are often asked to write for people and purposes outside of the classroom in order to demonstrate certain techniques that have been discussed in the classroom. Yet in this relatively inauthentic situation successful students often understand the stakes and display a strong sense of audience awareness. Though not for the assignment’s stated audience, the students adapt their writing processes and decisions to match what the authentic audience, the teacher, hopes to see. It is in this way that the inauthentic is truly authentic. Roger Cherry and Stephen Witte (1998) note the inherent contradiction when challenging traditional writing assessment. Though not speaking directly to issues of transfer, the connections are clear as they address arguments that classroom writing prompts can predict performance in situations beyond that particular classroom. Much like the underlying premise Cherry and Witte makes clear, skill transfer, the generalization of writing techniques, and/or literacy development is no simple matter particular when trying to understand what classroom writing brings to rhetorical situations outside of the first-year writing classroom; however, drawing upon expansive cycles and expansive learning can help. After first outlining problems that complicate studies of writing-skills transfer and generalization, I will show how.

One of the issues that complicates studies of skill transfer and literacy development is the complicated mix that exists with writing in academic settings. David Russell and Arturo Yanez (2003) address issues of exchange and use value with academic writing. The argue that students can be placed in a double bind as they feel the need to write directed at the teacher’s preferences in order to achieve a good grade as part of a process of rewards that can then be exchanged for a career enabled by a college degree rather than focusing on writing in a way that fits that career. Thus, the exchange value of the writing overruns the use value of the writing (p. 344). Traditional conceptions of the first-year writing classroom, though, assume a mix of exchange and use value. In other words, first-year composition course students are supposed to gain skills that will be useful for their careers as part of an academic system that will allow the credentials to achieve the career itself. In this sense, writing for the grade is supposed to allow the student to be more successful in future rhetorical situations. These skills are, in theory, able to be transferred to other situations. Still, after over a century of required composition classes, there is debate about their efficacy.
However, classes beyond the composition classroom do not follow the same formula. Other content driven classes in the students major often seek to enculturate students and provide the necessary factual base for competent interaction in a chosen discipline. In a content course it is possible that the emphasis will not be on writing. Student assumptions about classes content areas not traditionally associated with writing can complicate studies of transfer. Elizabeth Wardle (2007) illustrates this issue in her longitudinal study that transfer, or generalization, can be missed when students don’t perceive the need to work as hard on a writing assignment. In this situation, when a student perceives a greater emphasis on exchange value over use value, they may chose not make use of all the “skills” they developed in the past because it is not necessary to achieve the desired outcome or grade that can be exchanged for a future career (pp. 74-75). Unlike certain concepts or techniques that can remain static in different contexts, writing is dependent upon dynamic criteria and students can actively resist aspects of the skill and still be successful which makes it appear that transfer has not occurred. The reality of the situation, however, is that the student is making a choice regarding the situation and acts of resistance should be considered transfer. Activity theory itself helps with this perspective as the writing can be seen as a tool or artifact of a system of activity, thus the rules of the classroom, the community, and the division of labor including the hierarchical nature of the classroom influence the way that the student uses the writing itself within the context of the course.

Along with student motivation complicating use and exchange values is the common position of starting with a first-year writing class and move outward. As previously mentioned, writing is done in other classes can be a place where students cut back, but as Linda Bergmann and Zepernick (2007) have shown, students may also believe writing done in a first-year course is not connected to future careers whereas the writing done in other classes, and the comments received from those teachers, are seen as valid thus emphasizing the use value relegating first-year writing to exchange value. Further complicating this relationship is complex nature of literacy development. Thus, assuming that writing skills come only from first-year writing courses is inaccurate.

Not only are students writing and learning to write in other classes, but a myriad of other factors can and will play a role. Via what Clay Spinuzzi (2008) terms boundary crossing and polycontextuality as well as the laminated chronotopes discussed by Paul Prior and Jody Shipka (2003), students will draw from other rhetorical experiences, not just those in the classroom. Students don’t just read and write in academic settings. Students have and continue to experience literacy development in other places and situations. Kevin Roozen’s (2010) study illustrates this point by drawing upon the experiences of a young woman whose writing practices were developed while studying the bible. Understanding transfer or generalization must also accept that development of techniques occurs
elsewhere.

Writing techniques must be malleable in order to adapt to dynamic rhetorical situations. Studies exploring transfer as a static skill or from the teacher’s perspective can be flawed since students makes decisions about the writing process for a situation that is different from the situation in which the “skills” were garnered. Similarly, studies of writing skills that assume that writing techniques are moved to other classes devalues what is learned in other classes and systemic interactions. It is for this reason that a wider perspective needs to be used in which the decisions made by students are addressed along with fluctuations of use and exchange value. One such means is addressing transfer and student development of rhetorical dexterity through expansive cycles and expansive learning. Expansive learning and expansive cycles analyze the complex situations in which literacy develops and skills are remediated. As Yjrö Engeström (2006) notes, the balance of internalization and externalization are part of systemic development. Students entering a system of activity will actively take in the values of a system. As students become more accustomed to the values through systemic interaction, they may challenge the value sets via externalization. Students can then make active decisions about what to accept and what to resist. In a writing situation, a student may take in academic writing conventions as part of a first-year writing course. Tracking students and their roles within the system of activity partially depends upon researcher defined boundaries, a quality of activity theory noted by Kari Kuutti (1996). It can be argued that student-based systems evolve through internalization and externalization. This act can complicate studies of transfer if the act of resistance is not qualified as transfer.

More recently, Engeström and Annalisa Sannino (2010) have discussed expansive learning in a way that works with the mix of exchange and use value that complicates studies of transfer. Specifically, when discussing “object” a crucial aspect of activity systems, they note that One needs to distinguish between the generalized object of the historically evolving activity system and the specific object as it appears to a particular subject, at a given moment, in a given action. The generalized object is connected to societal meaning, the specific object is connected to personal sense (p.6).

Thus, distinguishing the “generalized object” from the “specific object” allows two somewhat contradictory perspectives to be addressed. Many studies of transfer and generalization focus on the view of the teacher; however, teachers only know what they hope to see in student decision processes. They cannot see into decision processes and acts of resistance that hide active choices connected to what was taught. Using this perspective allows a greater object of the educational system while the “specific” object addresses student decisions that balance the rhetorical situation such as what an actual assignment is worth and how the writing is used in their future careers.
The issues complicating studies of transfer, generalizations, and literacy development are a situational mix of rhetorical features, uses, and motivations of students within an activity system. Addressing student development through expansive cycles and expansive learning allows an understanding of the use of writing and division of object between the greater historicized object and the specific object. In this sense, rather than focusing on the teacher or assuming a static role of writing skills, the dynamic nature of learning, internalization, and externalization come through.
Introduction and theoretical framework

Enciclomedia Program is an integrated system of resources, through the digitization of free text books, has linked his lessons with various multimedia materials (SEP, 2007). This program seeks to enrich the learning process with resources that promote better understanding, signification and appropriation of educational content. It also encourages teachers to develop new teaching practices in the classroom for the treatment of the subject and content of the Textbook (Basic Education Undersecretary, 2010). Enciclomedia began to be introduced in the classrooms of fifth and sixth grade in 2004, to date there is almost total coverage in the nation's public schools in those grades.

Warwick, Hennessy and Mercer (In press) have found that the introduction of technology in the classroom does not imply a transformation of learning through cannot explain the evolution of classroom practice. Rather than invoke a more subtle and synergistic relationship between the intentions of the teachers teaching and growing perception of the affordances of the IWB relevant. Mercer, Hennessy and Warwick (In press) also have found that teachers' Effective Strategies for using the IWB for orchestrating dialogue. This may have implications for the development of teachers and students.

In Mexico, Fernandez-Cárdenas and Silveyra-De La Garza (2010) study the use of IWBs from a linguistic anthropological perspective. They found, that teachers using the language and Gestures to support student understanding when using IWB and multimodal objects. Thus, the introduction of IWB classroom itself does not change the pedagogic ideologies, practices for Achieving Communicative joint collective goals.

The study is framed theoretically in the contributions of the sociocultural theory (Vigotsky, 1979). Between the ideas that sustain this work is the fact that the speech has a meaning in context given as the interaction (Wertsch, 1988, 1993). To understand these aspects they will allow to plan and to enrich the processes of education and learning in the classroom (Rojas-Drummond, Littleton, Hernández & Zúñiga, 2010) especially when there are used cultural appliances like the ICT and IWBs. The use of the ICT into the classroom helps to transform the context, the scenes and the educational practices for the technological environments (Coll, 2004; Mercer, Fernández, Dawes, Wegerif & Sams, 2003). The potential of the use of the ICT especially of the computers for the
learning is narrowly related to the possibilities that offer to represent, to try, to transmit and to share information (Littleton & Light, 1999). The purpose is to describe and explain some spontaneous and emerging practices for teaching science that creates the availability and accessibility of IWB’s in fifth and sixth grade of primary schools in Mexico City.

Methods

We worked with a purposive sample of four teachers and 120 Students of 5th and 6th degrees of a public primary school ages range which between 10 and 12 years old. To the teachers and students an instrument to them will be applied to evaluate the use of the ICT. For compilation of information, observations and filming will be performed on-the classes of science and use of ICT IWBs. The data collection procedure was: a) The instruction was that the teachers given to science class or as regular; b) The children were accustomed to videotaping because they had engaged in videotaping sessions; c) The camera focus on the teacher; and, d) Microphone was used during recording.

Findings

This paper is discussions of the contrasting results are obtained. First, we present a description for the space and organization of each classroom, how it is distributed the furniture and the possibilities of working in different forms: individual work, in pairs, in small teams or group of students. Also, we observed relationships and forms of communication between teacher and students. Another aspect analyzed refers to the skills or difficulties of teachers and students when working with the computer, the IWBs and Enciclomedia, ease of work, the achievement or otherwise of the task or exercise, and educational practices that gave on the occasion of the use of these technologies. Second, we compared how two teachers taught the same topic and different structure of class and use of tools. On the one hand, preliminary results show that teachers repeat some traditional practices regarded as adding to, the facilities offered by the technology. For example, Reading and coping the textbook lesson. On the other hand, we encouraged that teachers are innovating their teaching practices with these technologies. For example, the teacher asks questions and writes the answers, and they construct a semantic network or a diagram, observation and explanation of pictures, to watch videos in the IWBs or searching information in Enciclomedia’s interactive library. Finally, we present an analysis of learning and use of scientific concepts that teachers and students made from the tools and activities proposed by Enciclomedia.

The present studies will contribute to the psychology of the education in theoretical, empirical aspects with regard to the development of skills between teachers and students of primary, when they learn concepts of sciences in technological environments (use of ICT and IWBs). In the methodological aspects, it will be contributed with the analyses categories to evaluate the
phenomena of interest. Besides the systematic analysis across microgenetic studies that have been little approached in Mexican schools. Between the applications derived from the study it is to improve the processes of education and learning in classes of sciences in which there gets the use IWBs and Enciclomedia in the classroom.

References:
The study was completed outside of school because we believe that students learn and develop skills in community practices before they start school. At the present time, such skills are not taken into account at school.

The Maya’s temporal concerns led them to develop in daily life a numerical organization that involves aspects of fundamental activities: planting and harvesting corn, religious rites, and social activities. To respond to diverse needs, they elaborated a vigesimal numeral system with unique characteristics related to concrete aspects of the human body.

This section is centered on analyzing the naming of amounts. The basic number for this effect is 20. The starting point has been a review of the compiled data as well as the elders’ stories about the origin of the vigesimal numeral system and the ways amounts are named in this system.

Some of the elders’ accounts show the relation established between the names of amounts and a cyclical way of conceiving the realities of time. These relationships are considered relevant especially if we take into account that the numeral system was constructed around the Maya’s temporal needs of daily life. Numbers were interwoven around a concept of time that is cyclical, not linear (López Austin, 2008).

If we consider that the Maya’s cosmic vision has aspects that are interrelated through shared community conceptions, such as harmony and respect, then we find that the ways of naming amounts correspond to a way of naming the world. All such naming is influenced by aspects of the cosmic vision of a specific culture: the Maya culture.

In first place, we must mention the reference made to the human body to name amounts, and in second place we realize that this reference is the underlying logic for naming amounts greater than 20.

“People in the community count in Tseltal because it is the language they know. They say this started when our ancestors began to count on their fingers until they got to 10: lajuneb. Then they added their toes, until they got to 20: jun winik. This means that to count in Tseltal we use our fingers and toes. We call this one man. They is why people in the community count like that. They know they are relating their body with the numbers when they count. When people add, they go 20 by 20 to continue adding.”

On the other hand, a third aspect is that the concept of a cycle is taken into account for naming...
amounts.
If we consider cycles from the Mesoamerican definition (López Austin, 2008), we see that a cycle implies movement. In other words, it refers to a previous state that is modified and results in a change, whether seasonal, corporal, temporal, or mental. Change is a construct at the base of movement, and the cyclical aspect occurs when change is repetitive.
Thus if we observe the way of naming amounts greater than 20, we see that the number of complete men is taken into account. We could call this a previous consideration. The number of remaining units that pertain to the incomplete man can be considered a new state.
The notion of cycle can be understood through the close relation established with the notion of zero. Zero, in contrast with the Western conception, is related to an event that indicates that something has reached a complete state, and that at the same time, emptiness was reached: there is no more room for anything else, due to the completeness. When an entity or event is completed, there is no room at that moment for anything more. Therefore at the same time, nothingness and completeness are attained, or emptiness and fullness, also called cabalidad or completamiento.
“The Maya used zero to refer to dates and periods of time on various monuments and writings. However, sometimes zero did not represent the absence of units, the empty set, or nothingness. Instead, zero denoted the end of a period of time or date and the beginning of the next. The terms used to describe this characteristic of the Maya zero are cabalidad or completamiento (a date or period of time that is finished, complete, or adjusted to fit)” (Tonda, 1996).
On the other hand, Ifrah (1981) suggests how cycles of time in the Maya culture were related to the gods that corresponded to each period, according to the number of the cycle mentioned.
“At the end of each cycle, the time to come was assumed by the god to whom the calendar attributed the following number” (Ifrah, 1981).
Thompson states that various figures show that the Maya kept time like a bundle held on the back by a cord wrapped around the forehead. It is as if each date had a different deity sustaining time. Thus the deity responsible for sustaining a date was determined by the number of that date (Thompson, 1979).

Naming Amounts in a Cyclical Manner
Considering the concept of cycle that runs through the Maya culture, and understanding culture as “a network of meaning that man himself has woven” (Geertz, in Cole 1999) we find that mathematical constructions are related to daily life in a framework of culture as well as context. Context is interpreted in the sense described by Michael Cole (1999): “that which interlaces”, or “the all-connected that gives coherence to its parts”. The following section will attempt to present the specific aspects of numbers in the Maya’s community practices, as related to the totality of
Maya culture.
When the Maya name amounts greater than 20, they consider the number of complete men contained in the amount; however, these complete men are not named. Names are given to the remaining units in the open cycle that has not yet been completed. The name used indicates the number of the man following the last complete man. An elder from the community of Guaquitepec explains the process.

“To say a number in Tzeltal, the first twenty numbers are used. In other words, you use from 1 to 20. To say 21, 22, 23 in Tzeltal, you use the word for 40, because that is where the number 20 in Tzeltal ends. And to say 41, 42, 43 in Tzeltal, you use the name for the number 60. This is because 41 starts over at the number 1, for 20 more numbers. If you start at 41, the number 20 ends at 60. So every number in Tzeltal is expressed 20 by 20.”

Based on the conception of zero in the Maya culture, along with the naming of amounts referred to above, we can state that the conception of “full-empty” corresponds to counting from 1 to 20. This can be called a complete cycle. The “new beginning” that corresponds to the last complete cycle of 20, plus one unit, can be called an “incomplete cycle”, as shown below:

“full-empty” new beginning “full-empty” new beginning
20 21---20 40 41--20
complete cycle incomplete cycle complete cycle incomplete cycle

The spiral shape below attempts to show, in a cyclical manner, the progressive construction of the names of amounts in cycles of 20. The curved arrows indicate the cycle from 1 to 20, and the straight arrows indicate the closure of a cycle of 20 and the beginning of a new cycle of 20, based on the closed cycle plus one unit (for example, 21, 41, 61, etc.). Cycles of 20 are always used.

Let us use the example of the number 46. The way to name the number in Tzeltal would consider the number of complete cycles of 20 contained in 46. In this case, two cycles of 20 are in 46. The remaining units—6—are named in reference to the third cycle of 20, which is 60. Thus we would say: six of sixty. In the Mayan language this would be wakeb oxwinik, which literally means, six from the third man, considering each man as a cycle of 20.

The conceptions of Maya culture intersect diverse aspects of daily life, including numerical aspects. The way numbers are named is also an expression of the way of naming the world in a specific culture, in this case, the Maya culture.

Today’s Maya communities have preserved through oral tradition the ways their ancestors used to name the world. In the specific aspect of numbers, the concept of cycles is manifest. A cycle is considered to mean movement and repetitive changes. Thus 20 is a cycle that is repeated constantly and taken into account for naming amounts. This way of naming amounts is influenced by the
concept of cycle, a common denominator in the activities of the Maya’s daily community practices.

References
The Vygotskyan tradition has focused to the study of semiotic mediation and concept formation. Therefore, it has not dealt much with the problem of formation of the bodily skills. The reason might be that the mediation by signs played such a vital role in Vygotsky’s understanding of the psychological foundations of human consciousness. On the other hand, he (1979,24) found that ‘the dialectical unity of practical intelligence and sign use’ as the very essence of human complex behaviour. According to him “symbolic activity penetrates the process of tool use”. The forms of this penetration has not received much attention within activity theoretical tradition.

In contrast, the problem of “embodied knowledge” in the form of bodily skills have been central both in phenomenology and pragmatism. The concepts of habit and its sociological version habitus as well as embodied knowledge and agency have played a central role both in pragmatism, phenomenology and theoretical sociology. Activity theory has much to contribute to the discussion of skills and the role of semiotic mediation in the formation of skills and capabilities. In order to make the such a contribution visible, I will compare in how phenomenology, pragmatism and activity theory - and its philosophical background theory materialistic dialectics - are being used to make sense of embodied nature of expertise and knowledge.

The three approaches share a conviction that the concept practice, interaction between the human body with material world around it is needed to transcend the Cartesian mind-material world dualism and to deal with the problem of knowledge. “Knowing” and cognition emerge from and is built on the practical interaction of human bodies with the world. The three traditions characterize practice in different terms. Phenomenology understand it as a human way of being in the world inhabited by things and tools (Heidegger 1927/1962) or in terms of primacy of bodily perception and action (Merleau-Ponty 1945/2003). Pragmatism finds practice in terms of habitual ways of interacting of with the world (Dewey 1988/1925). Leontjev (1978), an activity theorist, speaks about practice using the concept objective activity that is embodied, object-oriented and artifact-mediated.

The theorizing about embodied knowledge and agency in phenomenology emerged a counter-reaction against both Cartesian dualism and ‘disembodied’ conception of knowledge. By focusing – instead of ‘subject’ or mind – on the perceiving and acting body in its material environment Merleau-Ponty replaced mind-body dualism by the problem body-body interaction (Ihde & Selinger 2004). We know world not through representations but through our capacity to move in it. Our intentionality is corporeal and object-oriented. Merleau-Ponty (1945/2003) developed a set of
concepts to elaborate the idea of embodied agency: operative intentionality, body scheme, intentional arc, network of intentions, and intentional object. Also Ilyenkov (1977) speaks about “thinking body” thus agreeing with the embodied nature of human activity. He however, suggested another step in understanding the materiality of action: objectification of actions into systems of cultural artifacts laded by meanings, such as buildings, language and Internet. Mediation complements embodiment in understanding human activity. This step gives birth to the second, positive meaning of ‘disembodied’: knowledge is embedded or ‘inscribed’ not only in the body (neural connections and bodily dispositions) but also into meanings and functional affordances of artifacts. Embodied knowledge is intertwined with the forms of activity objectified in artifacts. The concept of mediation underlines the primacy of this relationship.

The phenomenological view has become well-known through the interpretation of Heidegger’s philosophy by Hubert Dreyfus (2001) who has also constructed a theory of the development of the expertise (Dreyfus & Dreyfus 1982). This theory extends the philosophical idea of primacy of preconscious bodily being in the world into the idea of the development of expertise. It starts from the conscious following of rules (instructions) and gradually develop into non-conscious intuitive mastery. I will argue that such an extension of a philosophical position directly into a theory of expertise in modern society is methodologically questionable and turns out to be poorly empirically grounded. The theory of habitus by Pierre Bordieu if often regarded as a sociological counterpart of Merleau-Ponty’s theory of embodiment (Crossley 2004). Bordieu uses the idea presconscious bodily schemas or dispositions in his concept of habitus which is used, with the concepts of field and to solve the ‘sociological version of subject-object dualims, the problem between agency or action and social structure. The pragmatist concept of habit has also been increasingly used to solve the problem of agency and structure in the theoretical sociology (e.g. Joas 1996) and even in economic theory (Hodgson 2004).

In this paper I will proceed as follows: first I will discuss the theory of embodiment of Merleau-Ponty and the theory of habitus of Bordieu. This is done because embodied habit is often used as a synonym of skill and it supplies a theoretical model for skill in social sciences. The second section is methodological. It deals with the double problem in the development of the theory of embodied knowledge and agency. It tends to expand the concepts developed to tackle with ontological and epistemic problems - and the problem of social order in sociology – into a workable theory expertise and skills. The original theory development takes place by using common sense examples of bits of human doings (e.g. learning to bike, play situations, knot tying, solo playing in a concert) as its resource without resorting to empirical research of the activities which they are part of, let alone the historical change of these activities. The same deficit of the empirical grounding continues.
when the philosophical and theoretical concepts are extended to make sense of expertise and skills in modern society. In addition the theorizing takes places disconnected to the psychological and pedagogical studies of skills and skill formation.

The paper will discuss a central limitation of the idea of pre-reflective embodied habits as a model of skill. It largely excludes the context of training and the process of the skill formation. However a long-standing training not only constitute the part of the life of many specialists, such as musicians and sportsmen. It is also the context in which the culture and knowledge become built in the bodily skills and where the inseparability of semiotic mediation and skill formation is most evident. It is also the context that is practically and pedagogically important if we want to advance the formation of expertise in the society. Fourthly I will discuss what activity theory can contribute to the study of skills. It is suggested that formation of skills and expertise – like the acquisition of language – follow the sociogenetic law of cultural development as formulated by Vygotsky. The need of studying the forms of interaction between semiotic mediation (conscious reflection) and embodiments during the formation of skills and in their further refinement is discussed. Sport and music activities that are widely used to characterize the embodied dimension of expertise. That is why data on training to play saxophone is used to show in which ways cultural artifacts (such as blues scale), communicative interaction with the teacher and the formation of bodily skills become intertwined in learning. It will also suggested that Luria’s concept of functional organ is usable in making sense of formation and constant refinement and reorganization of skills and expertise.

References
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The model of learning communities (Brown and Campione, 1990) see the school as a communities of practice based on the construction of knowledge. In addition, the development of digital communication has made possible onine meeting between different people leading to the formation of virtual communities (Rheingold, 1994). Technologies become cultural artifacts that mediate the interaction of individuals with the world (Mantovani, 1995) and change the way the people think, act, learn (Zucchermaglio and Alby, 2005). The concept of mediation is central to the formulation of the Activity Theory of Yrjö Engeström (1987, 2001), which made this theory a powerful tool for analyzing social systems. The author argues that a social activity is always constituted of: an outcome, an object, material and abstracts artefacts, subjects, communities, rules and values, modality of interactions. These elements can be tracked within the dialogic dimension, in which the Speech Acts (Austin, 1962; Searle, 1969) should contain some or all of these elements to be considered performative, allowing to discover the processes that lead to the construction of knowledge (Spadaro, Cucchiara, 2009). Thus, the online learning environments become spaces where to negotiate meanings and to find links between the various dimensions.

The aim of this contribution is to observe the dimensions of the Activity Theory in online collaborative learning activity. It is also important to see how the different dimensions are present in a learning forum and how they contribute to the construction of meaning, whit particular attention to the interactions between Subject dimension and Object dimension.

For achieving this aim, we analysed on online discussion in Synergeia, a collaborative online environment built during the European project ITCOLE (Ligorio and Veermans, 2005). This platform was used for the course "Education and E-Learning Psychology" in the academic year 2005/06. This course was attended by 10 students (7 females and 3 males) of the graduate program in "Organization and communication Psychology" at University of Bari. The course was offered in a blended mode.

The research used a quantitative and qualitative methodology. Specifically, the methodology used in research is the Inter-Network Analysis Actions designed by Spadaro and Ligorio to observe empirically the interactional dynamic between the dimensions theorized by Activity Theory. After emerging the discourse categories directly from data, the analysis show the generativity of these categories. To observe this activities we analysed 72 notes posted by students in the online discussion. Each notes were divided in 454 segments that have become the analysis unit of research. The segmentation was performed in three phases: 1) each note has been divided in speech actions
having specific communication goals; 2) each action has been divided in segments expressing one
of the elements of a social activity described by Activity Theory; 3) for each segment we detected
the presence of eventual relationship of elicitation with previous segments: we identified the
presence of segments generated by previous speech actions. This analysis shows messages posted
on the forum are not a simple communication unit but contained a variety of communicative actions.

After this preliminary work, was used the GAct grid designed by Spadaro (2008) to study the
structure of asynchronous communication activities in digital environment. The grid is composed of
six dimensions that recall elements of the Activity Theory. Each dimension is composed of
subdimensions representing different ways in which each dimension is explicit, for a total of
twenty-five subdimensions. The analysis allowed to identify most important dimensions involved in
constructing knowledge. The qualitative methodology described above was supplemented by a
quantitative methodology, which involved the use of Social Network Analysis (Calvani, 2005;
Mazzoni, 2004). In particular, it was used an innovative methodology called Inter-Action Network
Analysis (Spadaro, Ligorio, 2008) that allowed both to underline the elicitation links between
speech actions and to interpretate the generation power of some elements of an activity for
developing a discussion. The software used in the research is the third version of Cyram NetMiner
(3.3).

The frequency distribution of dimensions show that the Modality of Work dimension is the most
frequent among the other dimensions of Activity Theory. The frequency distribution of
subdimensions allows to observe that in the forum there is a constant reference to themselves (Self,
62%) and another (Tu, 38%). We also note that the discussion is focused on the Object, and
specifically on subdimension Theme (50%), which is analyzed in light of theories of different
authors, texts and study materials available during the course. The community of students create
and use Work Rules dimension (87%) and give attention to the Processing (61%) and Ri-
elaboration (60%) subdimensions. The community dedicated particular interest to Primary Artifacts
(94%), to share references/web graphics and expert advice from outside the community.

The analysis of actions show that each of the 72 notes in the forum contains on average 2 actions.
Each action helicity on average 3.7 items. The Modality of Work dimension is the one elicit
(28.7%) and is elicited (14, 3%) more frequently. The frequency of elicited dimension shows that
most of the dimensions are not elicited by other actions. The results of Social Network Analysis
confirm the central role of the Processing and Ri-elaboration subdimensions, both belonging to the
Modality of Work dimension, with a high number of items that elicit and are elicited. This show the
interest of participants to manage process of building knowledge through individual processing and
sharing of knowledge (Pontecorvo, Aiello and Zucchermaglio, 2004). At the end, has been applied
the Social Network Analysis at networks of interactions between the subdimensions and at the analysis of the interaction between Subject and Object dimensions. The research presented has tracked the dimensions of the Activity Theory within a collaborative online learning environment. In conclusion, the analysis show how the various dimensions are in action in the forum and in what way they contribute to the construction of knowledge. Moreover, the study of networks of actions allowed to investigate how the construction of knowledge is a process distributed among artifacts, community and subjectivity. The centrality that have the individual as agent of change inevitably highlights a limitation of this research, contextual and linked to the task requested. The study is designed as an initial contribution to the development of conceptual tools for understanding the process of constructing knowledge in a digital environment.
Bridging English learning and cultural knowledge: Exploring classroom discourse in an indigenous classroom in Taiwan

Wen-Chuan Lin

The aim of this one-year project is to explore relationships between indigenous socio-cultural forces embedded within everyday teacher-students interactional discourse and English language learning in a secondary classroom. This will be achieved through a collaborative action research of students’ English language learning in an indigenous school chosen from remote rural areas, which represent locales dominated by indigenous social groups in southern Taiwan. There is a widespread view that indigenous students, as the minority group living predominantly in resource-disadvantaged rural arenas in Taiwan, have historically limited success in education in general (e.g., Chou, 2006; Chen, 2001, Huang, 2000) and English language learning in particular (e.g., Huang, 2003; Lin, 2008). National data in English has consistently demonstrated a substantial gap in English learning achievement between junior high school candidates living in urban and rural locales. This statistical phenomenon demonstrated that at least half of the junior high pupils each year have given up learning English regardless of region or gender differences. Current official endeavours tend to recognize this phenomenon as a problem marked by regional, urban-rural difference in attainment evident within schools, and focus on aspects of resources disparity rather than from a holistic view of English language teaching and learning. Very few attempts have been made to examine the diversity and complexity of dialectical interaction within classroom walls that take account of the socio-cultural forces affecting indigenous students’ English language learning process. Recent studies indicate that the bridge between home and school knowledge in the pedagogical process is hypothesized to be effective in achieving meaningful learning and enhancing learners’ knowledge construction (e.g., Abreu, 1995, 2005; Lin, 2008; Huang & Lin, 2008). The pedagogic practice, specifically teacher-student interactional discourse, which integrates students’ ethnic cultural resources in the processes of teaching and learning, is assumed to be able to enhance English language learning. However, very little has been done in the research literature that employs an action research design to test such knowledge claims. Recent advocates of socio-cultural theories of second language learning and development (e.g., Lantolf, 2000; Lantolf & Thorne, 2006) have suggested that conventional SLA models require new, theoretical perspectives with different planes of analysis that take into account the socio-historical, socio-cultural and socio-political contexts that shape language learning. This study employs an action research design derived from socio-cultural theory that takes into account the social, historical and cultural influences that shape classroom English learning process. Broadly, it
investigates the differences in indigenous students’ everyday experiences of learning English, and ethnic culture on students’ value and identity in the processes of English language learning within various settings such as school, home and communities. In particular, it employs the cycle of action, observation and reflection, aiming to explore the impact of the participant teacher’s changing dialogical practice on students’ English learning. The research questions are summarized as follows:

1. what are the indigenous students’ everyday pedagogical experiences in learning English?
2. is there any cultural bridging between home and school knowledge in the pedagogical process of learning English?
3. what is the impact of such cultural bridging on indigenous students’ English learning?

Methods
In order to answer our research questions, we require a methodology that enables us to understand students’ views and pedagogical experiences in learning English. The intention therefore is to explore these questions through a methodological lens derived from socio-cultural theory that recognizes learning as embedded in multiple settings such as school, home and community. The investigation of classroom interactional discourse was foregrounded as the central focus in this study; however, the participants’ socio-historical or socio-cultural contexts were regarded as having equal significance.

Research design: a collaborative action research
Collaborative working may involve teacher practitioners and researchers taking a collective stance towards a particular issue so that they become “we” (McNiff & Whitehead, 2005: p.10). This study employs a collaborative action research to investigate teacher-students interactional discourse in an attempt to explore indigenous students’ everyday pedagogical experiences in learning English. The pedagogical practices studied in this school comprises recurring cycles of action, observation and reflection in one English language classroom.

Sites and participants
An indigenous secondary school in remote Kaohsiung county was invited to take part in this study for a period of one year in 2010. Initial field entry was carried out in the morning of 19th Oct, 2009. The indigenous school is a relatively large boarding school with a population of some 600 students who are predominantly indigenous Paiwan, the third largest indigenous social group among the 14 officially recognized tribes in Taiwan. Though only one school was studied in this action research, the outcomes would not only benefit the participant teacher and students, but also inform the design of a subsequent study, comprising a larger number of indigenous schools located in different geographic locations. The present study comprised approximately 10 interviewees. Participants
Analysis

Socio-cultural research invokes multiple methods and a multidisciplinary approach. Research instruments included participant classroom observation, qualitative questionnaires and interviews. These research instruments are described as follows;

Participant classroom observation

In order to probe perceptions of teacher-student interactional discourse, participant classroom observation was employed to unfold description of what is taking place in the real-life milieu of classroom settings. Though it is not our initial intention to structure classroom observation, certain “sensitizing categories” or “coding schemes” were developed into a hybrid typology, as general guidelines in order to avoid being overwhelmed by all that is to be seen in the process of observation. The classroom observation categories used were derived from Edwards and Mercer’s (1987) notion of “common knowledge” aiming to develop guidelines to inform analysis. Developing Vygotsky’s notions of ZPD and socio-cultural theoretical frameworks, Edwards and Mercer considered teacher-student discourse to be the center of instructional processes where “common knowledge” emerged through dialectic interaction. It was hence employed to investigate how far the indigenous teacher and students may construct shared cultural understandings about what is learned through the recurring cycle of actions and reflections.

Qualitative questionnaires

Qualitative questionnaires, comprising two parts (“learning the language” and “demographic details”), were modified from Scribner and Cole’s (1981: pp. 274-286) seminal socio-cultural research and used to uncover students’ everyday English practice across settings involving home, school and community. Students’ everyday pedagogical experiences in learning English were probed in the first part of the questionnaire. The second part began by seeking to elicit demographic details, particularly with respect of ethnicity. Further questions, relating to students’ indigenous cultural knowledge and experiences, were explored which made possible teacher’s potential changing practices, using cultural bridging in the pedagogical discourse.

Interviews

In order to provide information in greater depth an interview phase of the study was conducted, aiming at mapping out how individual students learned English in various settings, and their everyday pedagogical experiences in learning English. Semi-structured interviews were carried out with indigenous students and the participant English teacher in order to unfold students’ English
learning histories, interactions and practices in classrooms. Interviews were carried out after qualitative questionnaire administration as the final phase of this study. Descriptive questions were predominantly built on the research questions and insights emerging from prior study phases, including classroom observation and questionnaire administration, for elaboration and triangulation.

Data analysis

This action research relies on three forms of data collection in two phases in an attempt to enhance teacher’s professional development and students’ English learning. The research design employing, observational, interview and qualitative questionnaire data, is in keeping with socio-cultural approaches to learning that is seen as “situated” within successive “planes” such as school, home and community. Analysis of classroom events aims to present actual processes of classroom discourse at the interpersonal level and assists teacher’s reflection as well as further actions. Analysis of interview material and questionnaires, particularly for students, reveals their personal pedagogical experiences in learning English.

Findings and conclusion

Initial findings reveal that; firstly, the indigenous students had their everyday English learning experiences mostly within the school walls, rather than at home or in the community. Secondly, in the first phase of the study, very little cultural bridging between home and school knowledge took place in the pedagogical process. Finally, during the second phase, teacher’s changing practices that involved pedagogic instructions using indigenous students’ cultural resources such as native languages and home cultures appeared to support English learning. Contradictions emerged as some students may not be keen to recognize their indigenous minority culture whilst some may feel that they prefer the real part of English language learning that involves the four language skills to “the focus of culture” in classroom instruction (Ware, 2005; Ware and O’Dowd, 2008). In summary, the study signaled to highlight that a culturally responsive pedagogy that takes account of the socio-cultural resources of students both reflect and affect the learning milieu in educational settings.
Prior to 1998, the majority of early years care and education in England for 0-5 year olds was provided by day nurseries, childminders, private nannies or by community run pre-school playgroups for 3-5 year olds. In 2000, most 3 year olds were in pre-schools and most 4 year olds had moved into reception classes in maintained primary schools (DfEE, 2001). Georgeson (2009) outlines the pattern of early years training and education linked to type of provision since 1980; apart from teachers with QTS mainly in schools, qualification levels of staff working within the early years workforce varied, ranging from practitioners with no qualifications to those with national vocational qualifications (NVQ) Level 2 or 3. In pre-schools and nurseries in the private, voluntary and independent (PVI) sector, practitioners learned primarily from participating in the routines of the settings complemented by part-time competency-based training. The manager/supervisor and a deputy usually held the relevant qualifications.

Since 1998, policy in England has aimed to increase childcare provision, enabling parents to work, and increase ‘professionalism’ and qualification level. Links are made in government rhetoric and policy between such changes and improving outcomes for children, placing burdensome expectations on a workforce primarily made up of part-time female employees with low pay and poor working conditions (Georgeson, 2009; McGillivray, 2008; Miller, 2008; Osgood, 2005, 2006, 2009). The Childcare Act (2006) and the formation of the Children’s Workforce Development Council (CWDC) led to the introduction in 2006 of Early Years Professional Status (EYPS). EYPS is a graduate level status assessed against 39 national standards (CWDC, 2007) to lead and improve practice in early years settings. With a government aim to have an Early Years Professional (EYP) in every PVI setting by 2015, yet with current levels of qualification in the sector well below that of graduate level, consternation and anxiety have been expressed in early years. To help meet the target, new entrants to early years who may be graduates in an unrelated subject wishing to work with young children can achieve the Status in a 12 month full time course. This has added to critique from the established workforce.

Historically, the model of training for practitioners, qualified or unqualified, in early years care and education of 0-5 year olds in England has been one of apprenticeship into communities of practice (Wenger, 1998). Georgeson (2009) notes how, in pre-school and nurseries in the PVI sector, practitioners have learnt primarily from participation in the routines of the settings. Georgeson refers to the ‘nursery treasure chest’ of items, activities and practices (2009: 120), which can be
linked to Wenger’s concept of ‘reification’. New practitioners learn to use these reified objects and practices through a process of ‘legitimate peripheral participation’ (Lave and Wenger 1991). Leaders in early years settings have tended to be local staff who have worked from the periphery to the centre of practice, gaining qualifications and experience along the way and leading practice embedded in the history and locality of the setting. Clearly, the introduction of a status such as EYPS which promotes the potential of leadership after one year of full-time study challenges this historic practice (Georgeson, 2009; Osgood, 2009; Miller, 2008)

Our research investigated how the introduction of EYPS was perceived to disrupt the features of and ways of operating in communities of practice by those settings not yet engaged with the introduction of EYPS. This provided a purposive sample to meet the aim of helping such settings to overcome barriers to professionalisation. A case study design strategy was adopted to facilitate the exploration of practitioner views. The research, undertaken in 2009, employed focus groups, a questionnaire survey and interviews. In total, 44% of settings identified in the county as ‘non-engaging’ with the workforce reform agenda participated in the research.

The findings showed that although views were strongly held and feelings emotively expressed, it was apparent that the rationale for change was not fully understood. Staff felt under pressure to undertake huge personal commitments to learning to facilitate a change they did not welcome or associate with increasing professionalism.

Participants could not see a place for other staff working alongside the EYP, instead seeing EYPS as the key qualification necessary thus undermining the concept of a community of staff with a variety of qualifications and experience. Staff felt that rather than raising the status of early years, it risked replacing an experienced workforce, who had achieved their positions of authority after years of practice through an apprenticeship model of training, with less experienced staff. In addition, two levels of struggle for power and status were evident. Firstly, both staff and managers felt the powerful force of government in imposing change that they did not buy into. Secondly, managers/owners without EYPS felt they would be forced into a position of employing an EYP. This would threaten their position as leaders by virtue of being the most qualified and experienced in their settings. Participants discussed further ways to retain a sense of empowerment in the ensuing process of change. After achieving a degree and EYPS, they discussed the possibility of finding employment in other areas of work, thus moving out of the PVI early years sector with its relatively poor pay and conditions of service and so undermining government plans for workforce reform. The findings also showed that there were aspects of professionalism participants held dear and felt to be threatened by the manner of the introduction of EYPS. Their critique of policy into practice highlighted issues of relating to observation and ratios which they considered would
undermine rather than raise the quality of children’s experiences and was strongly opposed by participants.

Fuller et al. (2007) have developed a 15-point conceptual framework, the Expansive-Restrictive Continuum (2007: 745) (Table 1), to analyse and understand how the context of employment fostered or hindered workforce development in their research. By applying this framework to our findings, we provide an insight into why reluctance exists for the current strategies for early years workforce development and highlights how change might be modified.

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1. INTRODUCTION

Recently, there has been lots of debate around the issue of inquiry learning. While some scholars have tried to find out why inquiry learning does not work altogether (Kirchner et al., 2006), others have reformulated the question and asked what are the circumstances under which guided inquiry approaches do work (Hmelo-Silver et al., 2007). In the current study, I set out to examine students’ inquiry learning processes in the spirit of the latter reformulation. The focus is on the issue of students’ involvement and positioning in collaborative inquiry learning activities.

The study draws on socio-cultural (Lave & Wenger, 1991) perspective. Hence, students’ learning is conceptualized as transformations of learners’ identity in cultural practices. These processes of identity formation can be productively analyzed with the theory of positioning (Davies & Harré, 1990; see also, Yamakawa, Forman, & Ansell, 2009). In the current study, to understand processes that lead to students’ involvement becoming either more marginal or more central, I examine what kind of positions students are given and take up in relation to each other and the learning task (Davies & Harré, 1990; Gresalfi, 2009).

Positions are embedded in cultural storylines (Davies & Harré, 1990) or frameworks (Goffman, 1974) that the participants make use of when they make sense of the learning task they are engaged in. Although storylines are both culturally and historically given, they are also situationally produced (Davies & Harré, 1990). Thus, the participants have some degree of agency in selecting relevant storylines and also in recomposing them and the associated positions.

In the current study, the most relevant storyline is that of collaborative inquiry learning. In inquiry learning, the learning tasks are often open-ended and presuppose complex skills on the parts of students (Mäkitalo, Jakobson, & Säljö, 2009). Students are positioned as authoritative and accountable for participating in defining and problematizing the tasks they are involved in (Engle & Conant, 2002). Moreover, it is expected that students make connections to both formal and informal settings of learning located spatially and temporally outside of the current setting (Kumpulainen & Lipponen, 2010).

2. FOCUS OF THE STUDY

The research questions of the study are formulated as:

1. How do students position themselves and each other in collaborative inquiry learning?
2. How does students’ orientation to the learning task mediate their positioning?
3. DATA SOURCES

The research context is one heterogeneous primary school classroom located in the Metropolitan area of Helsinki, Finland. During the collection of the research data, the students were fourth graders and from 9 to 10 years old (n = 18). The author worked as the teacher of the class at that time. The data is focused on the actions and peer interactions of the focal student, Samira, and the students with whom she interacts. Samira has immigrant background and less than average language skills in Finnish. The reason for selecting her as the focal student is that her overt involvement in the collaborative learning activities was often marginal.

There are two primary data sets. The first one is generated from an inquiry learning project about Finnish wild animals inspired by the Fostering Communities of Learners approach (Engle & Conant, 2002). In the project, a special effort was made to foster students’ relational agency and equitable participation (Rajala, Hilppö, & Lipponen, in preparation). The data set consists of 3 hours of video recordings of peer interactions of a pair of students. The current data set is narrowed down to one phase of the project located near the end of the project. The second data set consists of 1.5 hours of video recordings from a student-organized and student-planned, voluntary learning project which occurred during the breaks in the same period of time as the teacher-organized project. In that project there are no curricular requirements and only a minimal teacher involvement. Nine of the students participate in the project, all of them girls. In addition, interviews of the students and documents produced by them are used as secondary data sources.

4. METHODS

On the basis of content logs made from both of the data sets, significant episodes are selected for further analysis (Jordan & Henderson, 1995). The selection of the episodes is informed by the research questions. The moment-to-moment discourse and actions of the students are analyzed with the analytical tools provided by positioning theory (Davies & Harré, 1990). I analyze both reflexive positioning, in which one positions oneself, and interactive positioning, in what one person says positions another. Positioning is also understood as a joint accomplishment. Thus, positions can be either taken up or rejected in the interaction. To analyze the framing of the learning task, I draw on the distinction between problem finding and problem solving (Newman et al., 1989).

5. PRELIMINARY RESULTS

The preliminary results, based on the data set of teacher-organized inquiry learning, suggest that the learning task appears to be differentially interpreted and oriented to by different participants. The focal student, Samira, is both reflexively and interactionally positioned mostly as only a problem solver rather than a problem finder. In contrast, her partner, Vilma, is positioned with accountability and authority for expanding and making situated interpretations of the task and dividing it to
subtasks. A hypothesis is set about the storylines in operation. The students appear to draw on at least two distinct storylines. The storyline of inquiry learning entails student positions with the authority and accountability for problem finding, and expanding and problematizing the task. In contrast, the storyline of traditional schooling entails product-orientedness and accountability for solving fragmented and externally defined problems. Triangulation of the findings with the data set of student-organized inquiry learning reveal clear contrast in terms of positioning. Also in that setting, Samira is trying to reflexively position herself similarly as in the teacher-organized inquiry. However, there appear to be rules in operation that reject such positioning. Instead, the others constantly try to interactively position her as authoritative and accountable for defining the tasks.

6. DISCUSSION
The tentative analysis of the data suggests that the selected methodological approach may reveal social and cultural constraints and affordances for students’ involvement in inquiry learning which otherwise would be hard to capture. The study highlights problematic aspects in the participation of the focal student, Samira. As the study progresses, I find it worthwhile to zoom into the peer interactions and identity formation of students who participate marginally in the inquiry learning activities. This may provide new insight for devising ways to conduct inquiry learning in a manner that is productive for all students.

References


462. The microgenesis of memory actions and egocentric speech. A study with adults in a schooling process

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Theoretical framework

The notion of strategy plays a central role in the study of self-regulation and its development. This concept was proposed account for the development of memory. According to Flavell (1970), a strategy is a behaviour that is planned and oriented to a goal. What defines a strategy is the existence of a conscious relationship between a goal and some means to achieve the goal (Paris, Newman and Jacobs, 1985). Examples of memory strategies are rehearsal and categorization (Kail, 1990).

The study of memory strategies has focused primarily in its development. This development has been characterised as following a sequence that includes three major stages, defined as three forms of deficiency:

1) Mediation deficiency (Reese, 1962).
2) Production deficiency (Flavell, 1970, 1971).

In the historical-cultural tradition we can find a similar concern for studying deliberate forms of memory and its development. Several authors have proposed the distinction between voluntary and involuntary memory (Smirnov & Zinchenko, 1969, Zinchenko, 1983-84). Voluntary memory involves the existence of an explicit memory goal. It is defined as an especial action oriented to memorization or remembering (Zinchenko, 1983-84).

The preceding definition is based on the notion of action, one of the units of the structure of activity in Leont’ev’s (1981) theory. For this author, an action is a process subordinated to a conscious goal; actions are defined by goals. More recently, scholars like Zinchenko (1985) and Wertsch (1985, 1998) have argued that tool-mediated action can be considered as an appropriate unit of analysis for human mental functioning.

Research on the development of memory strategies has shown the influence of culture in this development. In this sense, cross-cultural studies have offered an important amount of data about the influence of school experience on memory strategies. These studies have documented the existence of differences between individuals associated to their level of schooling. Many of these studies have focused on the influence of schooling on the use of organizational strategies.
general, people more experienced in school settings achieve better results in tasks demanding the use of skills for remembering different sorts of materials in a deliberate way. Despite the existence of important methodological problems in cross-cultural research (see Rogoff, 1981, and Cole, 1996, for a review), studies in this field have demonstrated that the acquisition and use of deliberate skills to organize this kind of material (as categorization, for example) seems to be associated to specific activities that take place in socio-cultural settings like formal schooling (Rogoff, 1981, 1990; Paris, Newman & Jacobs, 1985; de la Mata, 1993; Cole, 1996; Mistry, 1997).

Research on self-regulation has also focused on the role of language in the regulation of cognitive activity. Within this domain, the notion of egocentric or private speech has been central for this study. As it is well known, Vygotsky (1986) claimed that egocentric speech plays a major role in mediating mental activity. Some decades after Vygotsky’s original studies, the topic became the focus of interest for many Western researchers (Zivin, 1979; Diaz & Berk, 1992; Winsler, 2004). In general, Western researchers have used the term private speech, instead of egocentric speech, to emphasize the regulatory function of speech. Studies in this field have evidenced that egocentric speech plays a self-regulatory function in children and adults (Berk, 1992; Fry, 1992; Ramírez, 1995; Sánchez Medina, 1999; Duncan & Cheyne, 1999, 2001; Azevedo, 2003; Winsler, Feder & Way, 2003; Winsler, 2004). Adults self-report egocentric speech for different functions, use egocentric speech on different tasks and this speech follows similar patterns as in children (microgenetic trajectories; relation with task performance, task and task difficulty effects…) (Winsler, 2004). One of these factors is cultural-educational background (LAH, 1988; Azevedo, 2003; Azevedo et al., 2002; Alarcón, 2008; Sánchez, Alarcón & de la Mata, 2009).

Although in research on private speech we can find some studies on the use of specific verbal strategies (i.e. rehearsal) during memory tasks (Flavell, Beach & Chinsky, 1966; Keeney, Cannizo, Flavell, 1967); Winsler 2004), in general, the topics of memory strategy development and egocentric speech remain separate. Our study attempts to integrate both fields. We are going to analyse the influence of socio-cultural factors as educational experience in the acquisition of memory strategies (organization), on the one hand, and the influence of task mastery associated both to this experience in egocentric speech and to task difficulty, on the other. In this work, we assume a socio-cultural perspective and use mediated action (Zinchenko, 1985; Wertsch, 1991, 1998) as the unit of analysis of the relationship between memory actions (strategies) and egocentric speech. The study adopts a microgenetic perspective, as we observe both memory actions and egocentric speech across three phases.

This approach has been applied in previous studies (LAH, 1988; Ramírez, Cubero & Santamaría, 1990; de la Mata & Sánchez, 199; Sánchez, 2005; 2008; Alarcón, 2009; Sánchez, Alarcón & de la
Mata, 2009; 1) with children and adults

In the present study, we went further and added some methodological aspects of the former one.

**Method**

Participants. The participants were students from three educational levels in adult education: literacy level, primary education level and advanced level. They were attending different programs of the National Institute for Adult Education in San Luis Potosí (Mexico).

Materials. 3 sets of 20 black-and-white cards of 7 x 9 cms. were used. They consisted of pictures depicting four items from common categories (animals, plants, clothes, sport items, tools, music instruments and furniture).

Procedure. The methodology consisted of 3 phases (study and recall 1, 2 and 3). Procedure was similar in all phases.

- Study and recall 1. Two participants were seated one in the same table to study the cards. Each participant had his/her own set of cards. During study phase they were allowed to talk to each other. The corresponding set of pictures was presented to each participant in a randomised way. As the pictures were being put on the table, the researcher labelled each of them. Then participants were instructed to study them during the time they wanted. They were told that they could do anything they considered that it was useful to memorise the items. Study of the items was videotaped and analysed with a category system. After studying the pictures, participants carried out a concurrent task (completing a puzzle). The purpose of this task was to prevent the participants to rehearse the names of the cards. After completing the puzzle, the pieces were removed from the table and each participant was asked to recall the pictures (in a separate room for each member of the dyad). The researcher recorded the pictures as the participant recalled them. All the study and recall phase except the completion of the puzzle was audio and videotaped.

- Study and recall 2 and 3. The same procedure was repeated with the second and the third set of pictures. The instructions were similar to those employed in phase 1

Design. In this study, three explanatory variables were employed: educational level (literacy, intermediate level and advanced level) phase (study and recall 1, 2 and 3) and task difficulty (low, medium and high). Outcome or dependent variables were study actions, regulatory speech and recall. To define them, a category system was developed (see below).

Measures. Three different aspects of study and recall actions were scored. Study actions, regulatory speech (for the study sub-phase) and recall (for the recall sub-phase):

- Study actions.
- Regulatory speech.
- Recall. Two aspects of recall were considered: number of items and Adjusted Ratio of Clustering
Category system

Study actions. The analysis of the plane of action consisted of the identification of global units: study actions. Four categories of study actions were defined: Examination, rehearsal, sorting.

Regulatory speech. This part of the analysis corresponded to the plane of the semiotic mediation of the actions. Three categories of speech were defined: social speech (directed to the other member of the pair), externalized (audible) egocentric speech and partially internalized (inaudible) egocentric speech (mutterings, whisperings, lip movements...).

Results and discussion

At this moment, data analyses are being conducted. Results and conclusions will be presented at the Congress.
The study is about men who have been raped by men. The choice of subject depends on the limited knowledge about these men in Sweden today. I have met them now and then in my profession as a social worker for 30 years. These men have also appeared, but only in the margin, in other studies I have conducted in recent years about problems in social work. Therefore I have decided to focus on this group in the present study. One of the 18 respondents, Hampus, told me about something that happened him when he was 15 years old and lived in a small town in Sweden. He was bullied as young since he was overweighted, but by playing soccer when he grew up he lost weight and became a teenager like all his classmates, except for one thing — he was sexually attracted to the same sex. When his classmates in high school, one by one, described how they lost their virginity and how fabulous this experience was, Hampus felt more and more an urge to have his first sexual intercourse. He started to use different communities on Internet for dating and soon he found a man. They chatted for a couple of months before they decided to meet in the groove near by. Arriving there the man turned out to be twenty years older than he had claimed, but Hampus was determined to “loose his virginity”. The man took of their clothes they fondled and kissed. Then the man suddenly changed his behaviour and threw him to the ground and started to penetrate him harshly. It was very painful, Hampus said, and he turned off his emotions like he had trained himself to do all the years when he had been bullied. After the incident Hampus didn’t know what to feel because it should have been the fabulous sex experience his friends had talked about. He described that he went home, had no appetite, couldn’t sleep and felt depressed. The next day his sister phoned him. Hampus, who had a close friendship with her, told her that he had had his first sexual experience. “You don’t sound happy about that” she said. Hampus told her what had happened and she said in tears: ”…but you have been raped”.

How are we going to analyze this? I find the Cultural Historical Activity Theory (CHAT) to be a good theoretical frame for this, since we are trying to understand the cultural phenomenon rape. In some cultures certain forms of non-consensual sex aren’t seen as rape and therefore not criminal, in other cultures non-consensual sex within the marriage aren’t seen as rape and in many cultures men can’t be raped. Some will argue that Hampus wasn’t raped since he wanted to have sex, a stranger didn’t attack him and he wasn’t threatened to death, although this kind of rape is the most common one (Scarce 1997a). Legally in Sweden men can be raped, but still in many peoples mind this isn’t a reality, not even for the victims, as this study shows. The same goes for a historical perspective on rape. For example in Sweden non-consensual sex within the marriage wasn’t criminalized as rape.
until 1965. We can furthermore choose to look upon the phenomenon rape not as just an event, but also as an activity with motives, processes and goals, as we find in Hampus story. The rape activity was embedded in the sexual activities that started long before Hampus and the perpetrator met in the grove.

The study is based on qualitative semi-structured interviews with victims of non-consensual sex, with attention to ethical considerations in qualitative research with vulnerable groups (James & Platzer 1999). During 2008 respondents were searched out on Internet communities, at women’s shelters and medical services in Sweden. It was hard to find potential interviewees, for example there where no offers for men who had been sexual abused, the health service offered only care designed for women and there where a lot of resistance, when it comes to handing out information. Totally 28 informants answered the request and 18 of them were interviewed, the oldest was 70 years and the youngest 20. Twelve persons were interviewed face-to-face, four by text messages and two by telephone. Ten persons left initial messages and after that they decided not to carry on for an interview. The interviews, between one hour to one and a half, where taped and transcribed.

Up to 2009 there were no research in Sweden published about men being raped by men, which makes this study the first in Swedish. There are a growing number of Anglo-Saxon researches about this phenomenon. The pioneering work was Men behind bars, Sexual Exploitation in Prison done by Wooden and Parker (1982). The research also covers different fields like rape in wartime (DelZotto & Jones 2002, Stener Carlson 1997), male college students (Scarce 1997b) and homosexuality (Robertson 2006) to mention just a few.

As mentioned in the beginning Hampus didn’t realize that he was raped until his sister named it. In order to understand this, we could turn to Collins (2005) and his text Interaction Ritual Chains where he describe a process, also mentioned by Vygotsky’s (1978), where a person develops culturally first on a social level and then on an individual level. All the 18 respondents demonstrated during the interviews lack of words for the experiences they had gone through. Using the theoretical perspectives on the data one could interpret that since the phenomenon “men who have been raped by men” isn’t included in the mainstream public speech, at least in Sweden, the phenomenon don’t exist in the men’s world. "What is not named is invisible and, in a social sense, nonexistent” (Kelly 1988, p. 114).

The result of the study above is orchestrated by three themes: masculinity, sexuality and homosexuality. First the men didn’t react on the attack. They experienced, with Rentoul and Appelbooms (1997 p. 270) words, “frozen helplessness and submission” or as Collins (2008 p. 102) put it, a reaction to the “forward panic attack”, which “arises in a atmosphere of total domination”. Hampus described that he couldn’t fight back he was totally powerless. This experience challenged
the men’s idea about their masculinity – of not being in charge, being vulnerable and the common opinion that men can penetrate but never be penetrated, concepts the respondents have learned in the interaction ritual chains embedded in different activities along the trajectory of life. The second theme is the respondent’s image of how a sexual activity work, or what Gagnon and Simon (2005) call “sexual script”, i.e. shared conventions that organized the complex sexual act. The sexual scripts, which are learned in the interaction with others, don’t include the notion that men can be raped. That’s why Hampus explained that he couldn’t anticipate the rape.

The third and last theme in the study is the concept of homosexuality or more the western cultures’ idea about homosexuality. The men in the study describe the following “myth”: that if a man gets raped it is because he likes it, which makes him de facto homosexual. The same goes for the perpetrator, but not to the same extent. However research from USA and England show on the contrary that most perpetrators are heterosexuals and that the survivors are fragile heterosexuals or homosexuals (Mezey & King 2004). Nevertheless the men, even though most of them are homosexual, feel the society condemnation of homosexuality and some of them don’t want to “come out of the closet”. The shame drives for example Hampus during three years to practice unsafe sex, to cut himself, to develop eating disorders and never to search for help for having been raped. Many of these symptoms’ could be related to Posttraumatic Stress Disorder, but are not disclosed since the trauma of rape is never mentioned (Ruchkin & Eisemann & Hägglöf 1998).

The study shows that if the respondents haven’t acquired cultural tools from the historical context they can’t understand what have happened to them and how they should manage themselves out of the situation. This is a problem for social work. I would argue for more research on this issue on broader groups in order to get a deeper understanding of the phenomenon and it’s implications for social work.
Multicultural education is a new scientific discipline which is in the process of practical
development, and also in the process of establishing a theoretical framework. J. Banks states in its
definition of multicultural education that “Multicultural education not only draws content, concepts,
paradigms, and theories from specialized interdisciplinary fields such as ethnic studies and women
studies (and from history and the social and behavioral sciences), it also interrogates, challenges,
and reinterprets content, concepts, and paradigms from the established disciplines.” (Banks, J.A., &
research on multicultural education», p. xi) In other words he defines multicultural education as a
new scientific discipline. Until now, much has been done for the development of the multicultural
education, especially in the field of study designed to increase educational equity for all students
and in the field of curriculum development. However, there is another important part to
multicultural pedagogy: culture.

In this paper, using the studies of Russian thinkers Bakhtin, Vygotsky and Lotman, I will reflect on
the place of culture in multicultural education.

Firstly, based in the following definition of culture: “Culture refers to the patterns acquired and
transmuted by groups of human beings. Many social scientists define “culture” as a pattern for
survival that is created when groups of people attempt to satisfy their needs. Social scientists also
view artifacts and material objects as a part of culture. These values and mores distinguish one
group of people from another.” (Bruce M. Mitchell and Robert E. Salsbury «Encyclopedia of
Multicultural Education» Westport, Conn. : Greenwood Press, 1999, p.55), we can draw the
following conclusions: 1. Culture is always a group of people 2. These people are in need of
communication, and the main method of communication is the language. 3. Respectively, language
is the most important part of culture, which I define as a communicative code of culture or sign of
culture 4. Each culture has a material part to it, which I define as the material code of the culture.

Secondly, using the research of M. Bakhtin (V. Voloshinov ”Marxism and the Philosophy of
Language”), L. Vygotsky (“Tool and symbol in child development”) and J. Lotman (“On the
semiosphere”), I want to determine the role of the sign in the process of the human cultural
development, in the process of communication within the representatives of the same culture and
with the representatives of other cultures.

Specifically, I analyze: 1. The determination of Bakhtin that signs are born between socially
organized persons in the process of their interaction, in other words, each social group has its own
system of signs, and this system of signs varies depending on the changes within the group, 2. The theory of Vygotsky about the role of mastering a sign in the development and socialization of the child, 3. The view of Lotman on culture as a system of socio-organized people, as well as his theory of communicative nature and sign meaning of the culture.

Thirdly, as a conclusion, I will talk about the role of cultural code (or sign) in the process of multicultural education.

As a mean for survival for a certain group, Culture opposes other cultures. The interaction of cultures can lead to conflict. One of the main tasks of multicultural pedagogy is to avoid conflict among cultures and transition from the state of opposition to an state of understanding. Consequently, multicultural education should not be limited to a superficial acquaintance with a particular country or culture. Multicultural education should be mutually aware of both the communicative and the material cultural codes, explaining the need to use them in one or another culture.
Articulating the individual-social dialectic: the production of gendered subjectivity in sexual activity and its implication for HIV risk

Mary Van der Riet

South Africa faces a serious HIV and AIDS epidemic with 11% of the population infected with HIV (Whiteside, 2008). Understanding the dynamics in sexual activity and how they mediate the conditions for behaviour change is critical to prevention efforts. This paper presents a detailed analysis of the data collected in a qualitative research process in a rural area in South Africa. Data were collected through interviews and focus groups with 45 participants between the ages of 10 and 71 which focused on their introduction to sex, and their response to HIV and AIDS.

Using the framework of cultural-historical activity theory, the data were analysed using activity system analysis (Engeström, 1996). I argue that activity system analysis provides a unique way to ‘produce’ the context of an event which avoids turning context into a variable, or focusing on individual cognition in the form of the individual’s attitude to HIV. The activity system analysis was further enhanced by using the discursive framework provided by Hollway (1984), and Henriques et al. (1984). This framework provided the means to understand how the participants, as subjects of the activity system were ‘constituted’ by their practical activity.

A detailed analysis of how the participants enlisted the dominant socially constituted discourses of the research context demonstrated the way in which subjectivity was derived from their engagement in sexual activity. This analysis highlighted the difference between the goal-driven action of the individual, and the object-motivated nature of the collective activity. Individual action is managed, or driven, by a goal, but a collective activity is driven by an object and in this activity system, the cultural resource was masculinity, or the production of manhood. The individual subject’s actions were embedded in this broader collective activity meaning that desire was in the system, not in the person. For the male subject, it was the desire to be seen as the virile, sexually active man (the male sex drive discourse) that drove the activity. On the other hand, for the female subject the activity was driven by her investment in obtaining and maintaining a relation (the have/hold discourse).

This analysis reveals how the object in the form of identity for both male and female subjects of the activity system was realized in the course of activity. The discursive practices of the context thus produced particular relations of desire which entered into the practice and regulation of interpersonal relations and the production of positions. By illustrating how discourses are appropriated by the subjects in the activity, and how a collective object mediated the activity, a discussion of the subject-object relationship articulated the social-individual dialectic.

Although there seems to be an apparent contradiction between the object of the activity system for
male and female subjects, further analysis revealed how this difference was driven by, and resolved through, the dynamics in the division of labour of the activity system. Hollway (1984, p. 241) argues that the practices of gender-differentiated discourses “re-produce certain sexual and couple practices, and re-produce both gender differences and the inequality of women’s position in the dominant discourses concerning sexuality”. A three-phase historical analysis of the activity system of sexual activity identified a significant difference in power between male and female partners in the sexual activity. In sum, male subjects in the activity system initiated, managed and controlled the sexual interaction. Under these conditions, and because of their investment in maintaining the relationship, female partners found it extremely difficult to negotiate and insist on condom use. In addition to this, the introduction in the 1970’s of the injectable contraceptive by the apartheid government to ‘control’ the expansion of the black population, functioned as a mediating device in the activity system and established penetrative, condomless, as the legitimate form of sexual practice. It also shifted responsibility for pregnancy prevention to mothers and daughters, accentuating the gendered division of labour in relation to responsibility for safe sex practices such as condom use in current times.

Activity system analysis thus revealed how the relationship between the outcomes of pregnancy, HIV and personhood in the activity system, and between these outcomes and the other components of the activity system such as the division of labour and the meditational means, set up the conditions for behaviour change. In addition to this, the discursive practices of the context produced particular gendered relations of desire. These entered into the practice and regulation of interpersonal relations and the management of HIV-related risk.

References


English-as-a-foreign-language (EFL) teacher Education has had significant attention all over the world in the last decades (Cândido de Lima, 2001). This interest has been raised by the nature of the English language as an international tool of communication and the forces of globalization. Worldwide, the field of EFL teacher education has discussed topics such as teachers’ background, language competence, the content of teacher training and the processes and methodologies of training programs. These issues have been discussed and studied with the purpose of improving the teaching and learning process of English as a foreign language. Latin-America has shared this concern and we can see how EFL teacher education is under scrutiny through reforms, new policies, standardized tests and a social pressure for better results (Abrahams & Farias, 2009).

Chile, a rapid emerging economy in the southern cone, shares this concern for improving EFL teacher education. Special government programs have been created promoting in-service training and teacher development. National Policies and accreditation criteria have been enforced to improve EFL teachers’ competence and skills. These changes seek to train better teachers of English who can educate people better skilled for a globalised world and be better positioned in the international community.

Although in the last twenty years, the Chilean governments have promoted and invested in the teaching and learning of English along the country, this effort has not been enough to be extended to the research in the field of EFL initial teacher education. Few studies on teachers’ beliefs and curricula innovations exist in the field of initial EFL teacher education in Chile. However, there is very little evidence based research available regarding how teachers learn, how the conditions of learning are created, and what is learnt. Therefore, there is an urgent need to explore this area and reveal the particularities of this context.

I have been a teacher of English and a teacher educator in Chile for over ten years and my experience as such has driven me to do research in the field of EFL teacher education. As a teacher educator, I have seen how pre-service teachers engage in learning how to teach EFL and witnessed their learning through their actions.

As a teacher educator I have been a participant of the complex activity of learning how to teach EFL. And in this context the questions have arisen: What motivates pre-service teachers engage in learning how to teach? How do curricula mediate their learning? How do beliefs and personal experiences shape their engagement in the learning process? What is expected to be the role of a pre-service teacher? What are the roles of teacher educators and teacher mentors in the engagement
of pre-service teachers in the activity of learning how to teach EFL? This study will research on how pre-service teachers learn how to teach examining their engagement in this activity.

Research on foreign language teacher education has been historically focused primarily on the scope of applied linguistics or second language acquisition theories. Fortunately, in the last decade, there has been an emerging interest in understanding how people learn to teach a foreign language (Freeman, 2009). Here a sociocultural perspective offers a robust heuristic framework to elucidate how teachers learn to teach a foreign language in a very specific context as part of the culture and context of which they are part (Johnson, 2009).

Second language teacher programs in foreign language settings usually show a clear emphasis on language improvement. This has been the case in some Chinese, Eastern Europe and South American programs (Cullen, 1994). Language competence has been rated as the most essential characteristic of a good teacher in non-native teachers’ context (Borg, 2006) emphasizing the need to improve teachers’ competence in the foreign language. In this sense, learning to teach a foreign language is seen as mastering the foreign language based on the student teacher’s experience, ignoring teachers’ prior experiences, beliefs, values and attitudes. A sociocultural perspective on foreign language teacher education should include not only what teachers learn and how teachers learn a language, but how teachers understand language, language teaching and the sociocultural contexts in which the learning takes place (Johnson, 2009).

This research will be informed by sociocultural theory in the broader sense and data will be analyzed using Cultural Historical Activity Theory. Sociocultural theory has developed in various ways from the original proposal of Lev Vygotsky, one of this development is Cultural Historical Activity Theory (Ellis, Edwards, & Smagorinsky, 2010). CHAT focuses on the activity as a goal oriented, artefact mediated collective group of actions. CHAT will provide a holistic view of initial teacher education in a Chilean institutional setting. This perspective will contribute to the understanding of the field of EFL teacher education and consequently it will provide with a framework of evaluation and alternatives of improvement of the EFL teacher education program. Ultimately, this research intends to illuminate how pre-service EFL teachers learn and language teacher education in my country, Chile.

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Currently in many school educational contexts there is a major focus on increasing the use of Information and Communications Technologies (ICTs) as significant learning tools with little concern often given to cultural tools and social practices. This research has been concerned with investigating the possibilities for creative practice using ICTs and drama in school-based projects. It focussed on the nature of activities and practice that may emerge from projects involving young people creating drama work, in particular aiming to create cyberdrama – a form of participatory drama working within the dramatic frame using online spaces and digital technologies.

Two case studies were conducted and researched. Young people aged 15-17 (mostly in year 10) were involved as well as their drama teachers. Theoretical frames used for analysing the work were drawn from cultural-historical theory, in particular drawing on the work of Vygotsky, theorists in the realm of activity theory and Bateson’s cybernetic theory. Case study data drew on survey responses, field notes, online communications, interviews and creative work. Case study accounts were written which focussed on the activity system for each case and then significant themes that emerged. These included the nature of contradiction, embodied learning, identity and power.

Through the analysis of two case studies, it was identified that the introduction of digital technologies and use of online spaces within both curricular and co-curricular drama projects represented significant intervention into the usual activity system for drama learning. The ways that various participants and institutions responded to the intervention led to sites of contradiction and experiences of crisis for some participants but also for expansive learning. The cases indicated the importance of different repertoires of practice, cultural tools and social relations which may be required to support creative practice using ICTs. The importance of self as a leading activity which impacts on personal meaning making and potential learning also emerged.

Student versions of the self, and how flexible or cybernetic these were, impacted on how they perceived the ICT-based activity. For some students, therefore, the ICTs were vehicles for realising their creative practice, but others saw ICT use in a more instrumental or social sense with more corporeal preferences expressed for realising their creative self. Some students clearly preferred embodied learning experiences with a focus on the human body as the primary creative tool of expression, rather than using institutionally constrained ICTs.

Whilst expansive learning was possible in some instances, in others it was not. Institutional tool provision, rules about tool use and exercise of authority have particular impact within a formal educational setting. Power is manifest at different levels within the system, and is evident in any
activity involving multiple subjects. For creative practice to be realised in a collective activity, a
dynamic notion of power is required, but in many cases, the authoritative exercising of power
regarding student ICT tool use is relatively inflexible.
For this research activity theory was helpful for framing the case activities and identifying structural
issues. It was been useful for helping understand the experiences of contradiction and crisis and
identifying what components might need to be considered to move on to more productive learning.
The findings from this study suggested there are other elements that may be added to models of
activity to reflect the nature of creative practice in collaborative and institutional contexts.
Creative practice and learning therefore involve processes of engagement, embodied interactions,
feedback, evaluation and adaptation. Feedback processes are crucial and these include feedback
from external sources as well as internalised feedback and critique. The feedback impacts on the
subject and on the work. For the subject to receive and respond to the feedback involves a
‘cybernetics of self’ (Bateson). This involves filtering processes which screen what information the
subject or system is open to receiving, and how they respond to it. Therefore feedback needs to be
included in an activity system for creative learning. This all occurs within a contextual field that is
made up of overlapping frames which impact upon all aspects of the activity – with institutional
tool provision, rules about tool use and exercise of authority having particular impact within a
formal educational setting. Consideration needs to be given to how participants might have
opportunities to lead and have a sense of agency, and how trust might be established so participants
might confidently concede power to achieve a collective goal.
The aim of this paper is to analyze and discuss in what respect teachers’ professional work – their teaching – changes if they experience their teaching as an epistemic practice.

The context for this study is a ten-week in-service course, given by Stockholm university, distributed over two semesters. The participants were all educated teachers working in schools for children who are regarded as intellectually disabled. In Sweden teaching practices in those schools, called Särskolan compulsory school, is a relatively unexplored research field. However, the few studies that address teaching and learning, indicate a teaching practice where reading and writing are limited and where very little progression is made available for the pupils. Studies show that the pupils are taught in such a way that tends to slow down, fragmentise and simplify the whole, and that contemplated knowledge remains inaccessible (Alm, Berthén, Bladini & Johansson, 2001; Berthén, 2007). The way in which teaching usually is organised in the Särskolan can be described as characteristic for special teaching in the compulsory school; simpler tasks, more repetition, less variation, and a slower tempo. Further the teachers often rely on different programmes and strategies for their literacy teaching. The kind of learning that is made available in the traditional teaching in Särskolan has often been questioned within the area of special educational research (see for instance Ahlström, Emanuelsson & Wallin, 1986). Today there is support for what, a hundred years ago, was believed to be impossible – namely that pupils with, for example, Downs Syndrome can learn to read, write and count. Not only is this possible but also highly probable – given that they have the opportunity to participate in practices, which in the activity theory perspective can be understood to have motive, goal and means that compel towards participation in a literacy practice. Attention is drawn towards other and alterative ways to regard learning (Daniels, 2004). What must also be considered is how the educational practice created for these pupils can change so that they are given the prerequisites for enculturation of literacy practices. Creating teaching practice where the planned knowledge content is clearly defined and available is regarded as especially relevant in relation to groups of pupils that are perceived to have the greatest learning difficulty. That is, the pupils actual competences, their reading/writing strategies, their understanding and reading/writing should be subject to teachers planning and design.

The in-service training course, in this study, was based upon theoretical perspectives as socio-cultural theory, activity theory (Leontiev, 1986), learning activity theory (Davydov 1988) and
emerging literacy theory (Clay, 1991). The course aimed to develop a reflective and investigative approach rather than fix models and strategies to apply.

According to Knorr Cetina (2001) epistemic practices are objectual in that they are focused on the development of the knowledge object and thereby developing new knowledge as well as new practices. Thus, the purpose of a practice, as for example teaching literacy to pupils with special needs, organized in relation to a knowledge object is to produce knowledge that can help teachers to see literacy learning as something that cannot be predefined or organized by using standardized models and strategies.

The study

The data in this study consists of self-reports, assignments and interviews, and was collected both during and after the course. The analysis was guided by the theoretical concepts, epistemic practice and knowledge object as developed by Knorr Cetina (2001).

The tentative results show that this in-service training course allows teachers to develop an understanding of students learning as a matter of investigation, thereby they develop students literacy learning as a knowledge object in relation to their teaching mission. When entering the course the teachers expressed the idea that the course would give them models and "right answers" to their problems. During the course and afterwards they gave examples of how they started to work - not using models - but investigating the individual child's actual competencies and problems in literacy work. Based on these investigations the teachers decided upon concrete learning goals and planned for the learning activity within the child's zone of proximal development.

References


Our theoretical reflection begin from a socio-constructive point of view. In fact, according to this approach, it can be affirmed that people interactively construct the realities in which they live, developing symbolic, sense-filled "possible worlds" while they act in their physical, social and cultural environment (Bruner, 1986). Part of this continuous construction process takes place when people negotiate the “contexts” (Cole, 1996) in and with which they interact while participating in various activities. The development of the context is in fact “shaped by the activities of the moment” (Duranti & Goodwin, 1992), in line with the objectives that people have set themselves and the activities they are involved in. In this sense, the concept of activity, as developed in the soviet tradition (Kozulin, 1986; Wertch, 1981), creates a framework that permits to understand this process. The spaces for interaction and the times for the activity are negotiated in a coordinated way. In short, the co-construction process also incorporates the space-time dimension (Holland, Hutchins & Kirsh, 2000, Kirsh, 2005) and is inevitably sensitive to the characteristics of the historical and cultural context as well as the participants’ skills, intentions, expectations and ways of interacting (Cole & Engeström, 1983). In our opinion, these dimensions are important for understanding collaborative processes and the coordination implied in every collaborative activity, but they have not been sufficiently investigated in the context of computer-mediated interactions. Thus our research question inquires the impact on the spatiotemporal aspects of situated activity systems. In particular we look at an activity system composed of a group of teachers planning educational activities with and for the introduction of a new software program.

In particular, we are interested in the role that technology plays in space-time management. These create a direct link with the concept of mediation – introduced by Vygotsky (1981) and considered a key concept of activity theory (Engeström, 1999) – that clarify how by means of psychological tools people modify their mind and their practices. In fact, the introduction of professional tools impacts practices in many ways: the use of a tool involves specific procedures and triggers particular “professional visions” (Goodwin, 1994). One of the dimensions impacted by technology is the management of the space-time configurations of an ongoing activity. In the research here described we analyse this dimension in a group of teachers while planning activity for their classroom involving the use of a software suite.

Six training sessions in which 10 teachers first familiarised themselves with an innovative software
suite called CoFFEE were analysed and later they developed a careers guidance educational scenario. All the sessions were filmed and each session was also supplemented by the collection of field notes written by the researcher through participant observation.

During the analysis chronotopic and heterotopic data was traced. In particular we noted the dimensions relevant to make sense of the software familiarisation process and its consequences for the teachers’ planning activity. This required speech transcription using the Jeffersonian notation system (1984) and analysis of film stills of particular moments in which the videotape captured relevant chronotopic and heterotopic data. The entire analysis was carried out by two researchers, who first worked independently to select the pertinent episodes and then compared and agreed on their final choices together.

The tempo of the activity was found to vary considerably depending on various factors, from the characteristics of the tools used to the aims of the activity itself and the skills employed by participants to achieve them. Essentially, three different tempos were identified, which we named, using a musical metaphor, adagio, andante and allegretto:

- Adagio: for chronotopes in which the exploration and manipulation of the available physical and symbolic spaces tends to be slow and highly focussed on the here and now. This happens for various reasons (i.e. The inexperience of the participants, the high degree of accuracy required, the need to explore extensive semiotic resources)

- Andante: here, the activity quickens it’s pace. It occurs, for example, when participants succeed in introducing familiar content during the activity, with the aim of finding a solution to a contingent problem or improving the representation of the future situation for which the current activity is intended.

- Allegretto: this type of chronotope identifies a particularly quick-paced participation configuration that enables a given task to be carried out in a relatively short time. The technology provides symbolic spaces that can be displayed and manipulated in real time by all participants.

References


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The question of the origins of the higher mental functions dominated psychology in the late nineteenth century in much the same way that the question of the origins of language had dominated language studies in the eighteenth. The nature of the link between these questions began to be explored systematically within Völkerpsychologie (‘ethno-psychology’). Socio-cultural psychology stems chiefly from the theoretical foundations that Lev Vygotsky established in the Soviet Union. Discussions of Vygotsky’s writings often assume a prior knowledge of a history of ideas that remains largely unexamined. Yet this history can offer insights into unresolved tensions and contradictions in Vygotsky’s work (Hardcastle 2009). The rich, though problematic legacy of Völkerpsychologie (‘ethno-psychology’) offers a particular instance. Paradoxically, an examination of the origins of ‘ethno-psychology’ helps to explain traces of humanism and residual idealism in the Soviet psychologist’s writings.

My story begins in the University of Leipzig around the start of the nineteenth century, when debates around the physical basis of mental life dominated fledgling psychology. The impetus came largely from France. In Germany, psycho-physiology emerged when German physiologists began investigating the ‘soul’ or the ‘psyche’ using ‘objective’ scientific methods. At Leipzig Gustav Fechner set about quantifying mental responses. Fechner aimed to separate out the ‘spiritual endowment’ of humanity – he was a deeply religious man – from the material determinations of consciousness. Largely as a consequence of his pioneering work, Leipzig emerged as a major centre of psycho-physiological research.

Wilhelm Wundt was the founding figure of experimental psychology; he pioneered research into Völkerpsychologie (‘ethno-psychology’); and he broke new ground in the way the problem of the higher mental functions’ dependency on culturally evolved signs was investigated. In certain respects, his project foreshadows Soviet socio-cultural psychology. Wundt was a ‘hero’ of German ‘cultural science’ (Smith 1991). Indeed, his experimental work on perception and cognition helped lay the foundations of professional psychology.

However, the politics of the academy figure large. The standing that philosophy had attained in the German Universities during the Enlightenment was diminished as a consequence of the rise of the natural sciences. However, the application of the methods of natural science to humane inquiry involved a ‘displacement’ (Zimmerman 2001:10) of hermeneutic traditions of interpretation associated with idealist traditions in language studies. Wundt employed the methods of natural science because he wanted to distinguish ‘scientific’ psychology from the speculative and
metaphysical conceptions of mind associated with Romantic idealism. Meanwhile, linguists at Leipzig broke with humanist tradition that underpinned historical and comparative philology principally because they wanted to establish linguistics as a science in its own right. Linguistics and psychology struck out along divergent paths.

Wundt’s chief goal was to discover universal properties common to all minds. To this end he surveyed the mental characteristics of various peoples by gathering quasi-anthropological evidence of their ‘mentalities’ as they were ‘objectified’ in ‘spiritual’ productions: languages, symbols, artefacts, myths, customs, art, religion and so on. Yet Wundt’s shift towards anthropology threw up intractable methodological problems of the kind that his contemporaries, Rickert and Dilthey, were struggling to clarify. How could experimental psychology and cultural anthropology be blended into a unified scientific research programme?

Much hinged on competing pictures of mind. Wundt was a neo-Liberal and a nationalist. His interest in psychology stemmed from his involvement in workers’ education and his neo-Liberal conviction that education was the remedy for all social ills. The prevailing neo-Liberal picture of mind presupposed that elementary mental structures are pretty much the same everywhere. Neo-Liberals regarded human variation as something arising from particular circumstances: geography; climate; history and so on. Surface differences among peoples, they asserted, were the result of external circumstances. Further, they presupposed that it was possible in principle to separate out the ‘surface’, ‘super-structural’ aspects of mind from what was ‘naturally’ (biologically) given. Thus, they hoped to distinguish what constitutes the universal rational endowment of Mankind from its particular cultural ‘overlays’. This against the backdrop of the problematic distinction inherited from German philosophy of history (Kant, Herder, Hegel, Ranke) between historical ‘cultural peoples’ (Kulturvölker) and ‘primitive peoples’ (Naturvölker) with no history.

Where did the so-called ‘higher mental functions’ figure in the neo-Liberal picture of mind? The question was whether or not the higher functions belong to the universal human endowment; or whether they are part of the particular cultural overlay. Debates hinged on what is ‘fixed’ and what is ‘changeable’ in the human psyche. Answers to these questions informed estimates of the efficacy of mass education. Neo-Liberals claimed optimistically that the critical aspect of the human psyche - the part that is open to change - could be improved by education. Typically, they thought about change as something occurring inside the individual, a view that reflected abstract Kantian principles of rational, moral autonomy, which also inscribed the bourgeois dichotomy between the ‘individual’ and ‘society’.

Wundt became sceptical about the adequacy of the abstract neo-Liberal model of the rational autonomous individual in the aftermath to the failure of the Liberal revolutions of 1848. He grasped
the notion that thought occurs and, indeed, minds are formed in concrete circumstances. He held that cultural environments shape minds and that, at a stage beyond what is biologically given (and in that sense, ‘fixed’), mind is open to modification (Smith 1991). His was not an ‘expressive’ picture of mind ‘unfolding’ from something that already existed (Herder, Froebel). Rather, he argued, we take in (‘internalize’) the cultural milieu we inhabit.

Where did Völkerpsychologie (‘ethno-psychology’) come from? Wundt inherited it in name alone. ‘Ethno-psychology’ emerged around the same time as psycho-physics. It was established by two Jewish humanist thinkers, a philosopher and a philologist: Heyman Steinthal and Moritz Lazarus (Kalmar 1987:643). In the eighteen-sixties, they developed the conceptual framework for ‘cultural-psychology’ in their journal Zeitschrift für Völkerpsychologie und Sprachwissenschaft (Ethno-Psychology and Language Studies) against the backdrop of the so-called ‘Jewish Question’ which turned on whether or not a different ethnic and religious group could be wholly German. Paradoxically, with its concentration on cultures, Völkerpsychologie prefigures modern anthropology rather than psychology.

How did language figure in ‘ethno-pyschology’? Lazarus and Steinthal worked within the humanist tradition of language studies they inherited from Wilhelm von Humboldt. However, Völkerpsychologie represented a shift towards anthropology. Paradoxically, anthropology was also an emerging discipline that in seeking a natural scientific basis rejected the humanist tradition involving hermeneutic and empathetic methods of interpretation associated with idealist traditions in philology.

Meanwhile, the Junggrammatiker, (neo-grammarians) a group of ‘militant’ linguists at Leipzig, were laying the foundations of modern structural linguistics. (Saussure began his doctoral studies there.) The Junggrammatiker spearheaded the assault that aimed to transform language studies into a full-blown science. Their chief objective was to establish linguistics as an exact science on a par with the other natural sciences. They sought to break with the ‘unscientific’ Humboldtian tradition of language studies within which Lazarus and Steinthal worked.

Battles raged on all fronts. There were clashes between experimental psychologists and metaphysical philosophers as well as skirmishes among positivistic philologists and neo-grammarians. Trained in Humboldtian philology, Steinthal published an influential study on the origins of speech, Der Ursprung der Sprache, which appeared in 1856. He started from the assumption that innate laws of language govern mind, arguing the case that a ‘science’ of psychology required a complementary ‘science’ of signs. Unfortunately, he published his views around same time that psycho-physiology was gaining strength and, inevitably, this led him into conflict with the Fechner’s inheritors. They contended that physiology - muscle, reflexes, the
nervous system, ‘localisations’ in the brain, and so on - held the key to discovering the laws of mind. In contrast, Steinthal insisted on the importance of signs, especially linguistic signs, in the constitution of consciousness. It was a double misfortune, then, when he also came under fire from the Junggrammatiker, who quarrelled with his picture of language. Push came to shove when Steinthal published a psychology textbook that began with a chapter on linguistics. The Junggrammatiker reacted, claiming that the new, empirical, mathematically-based psychology – the tradition that psycho-physiologists like Fechner had begun - offered a more scientifically secure foundation. A brutal academic engagement ensued - and Wundt’s psychology issued in the aftermath to it.

Lazarus and Steinthal evolved a broad conceptual framework in which social behaviour and the development of inner activity figured as a socio-cultural legacy) of the group (Kalmar 1987:675). Here is Lazarus writing about the role of Völksgeist, the ‘cultural spirit’ that animates all mental functions through a process of symbol-formation:

When Locke and Kant, when Spinoza and Fichte represent activity and the development of understanding, we find that they refer all its moments directly to the individual. Allusions to historical conditions appear at best to as fleeting exceptions. But in fact in conditions of a developed culture even the simplest perception of nature takes place as a psychological process whose most important elements consist of thought forms and methods that are the result of protracted accumulation and modification of given cognitive contents.

Such passages point forward to the socio-cultural psychology of Lev Vygotsky.
Since World War II, the everyday use of visual media technology devices in industrialised countries has steadily risen (cf. Hallin & Mancini 2004). Technology has become highly sophisticated: Television's development from its bulky early stages to today's flat-screens symbolises the adult users' increasing wants for slicker, faster, well-designed, but also easier-to-handle devices (e.g., European Commission 2007). Just recently, the Apple Corporation's widely hyped market launch of the “iPad” impressively underlined this trend.

Meanwhile children growing up are constantly surrounded by a big variety of media technologies, and many of them have adopted a quasi “natural” everyday use even of the more complex ones. In Germany fifty percent of the children aged six to seven have already gained experiences with the computer. Nonetheless, children up to the age of thirteen still declare that the television remains their most utilised medium (cf. MPFS 2008). This conforms to other empirical evidence stating that in the United States, even very young children make regular use of the television: According to Zimmerman, Christakis & Meltzoff (2007), 40% of the babies aged three months or younger regularly sit in front of a running television set. The number of television users rapidly grows when reaching the age of two: 90% of these children spend an average of 1.5 hours watching television.

Surprisingly, the numerous studies dealing with the effects of television usage on children's well-being and behaviour disregard its early utilisation and hardly consider pre-school children in their works, although the analysis of these young children's media usage might provide considerable information on the children's perspective on and later use of technology. Furthermore, studies looking beyond the mere quantification are extremely rare (cf. Giles 2003), which leaves the epistemological field to the strictly technology-pessimistic videomalaise theories (Martinez 2004).

The Ph.D. project “The meaning of visual media technology for young children's everyday life” wants to fill this knowledge gap by analysing pre-school children's media usage and especially by letting them state their view on visual media technology, on their everyday use of traditional and new visual media devices. In order to fathom the media technologies' significance for young children's everyday life, the project merges three scientific approaches: The technology-scientific approach assists in analysing the media technologies' and especially television's history of production and reception with regards to its current social function, and thus to delineate the societal scope of possible meanings (1). Theories and methods on children's subjectivities help in
comprehending children as centres of intentionality and to shed light on their everyday actions (2). The subject-scientific perspective offers the epistemological and methodological framework to combine the historical-empirical level of analysis with the analysis of currently existing personal action potence (3).

Subject science – as described in the comprehensive works of the German-Scandinavian school of Critical Psychology – draws on historical and social-scientific studies to research into intersubjectively constituted, but nevertheless individually varying meanings for life conditions, situations and occurrences, and the way human beings ground their actions in these meanings. For subject science, it is essential to view human actions as part of an array of possible actions to perform. Depending on individual interests and needs, in specific situations a number of possible actions is perceived and charged with meanings. Socio-historical facts frame the scope of possible actions. However, depending on the subjective situation (Tolman 1994), individuals can attribute completely different meanings to these possibilities for action (and the resulting consequences). The longer an individual is part of a specific society, ergo exists in the same collaborative structures, the more naturalised and homogeneous the attribution of certain meanings and the assessment of specific possibilities for action become (cf. Holzkamp 1983, 1993). I.e., over the course of an individual's existence, possibilities for action are less assessed as true possibilities, but rather as pre-determined paths. Subject science reflects this problem by stating that, in principal, every human being is able to perceive things one way or another, and can thus act differently depending on its individually attributed meanings and the assessed subjective situation. Since the attributed meanings are less pre-determined in the onto-ge-ne-sis' early stages, young children could assess their subjective situation with regards to visual media technologies completely different than older subjects. Therefore, the project attaches great importance to the acknowledgement of the young children's intentionality. Specific subject-scientific works on (young) children's development (e.g., Markard 1985, Ulmann 1987, Holzkamp 1993, Højholt 1999) put a special emphasis on the fact that children do act intentionally, they have their own subject's point of view (Papadopoulos 2008), which of course for adults is even more difficult to grasp than other adults' points of view. Thanks to a personal intentionality, own meanings can be attributed, and new action possibilities perceived, eventually revealing a completely different view on media technologies and its usage.

Next to studies on children that explicitly refer to Critical Psychology, there also exists a broad spectrum of approaches that reflect children's subjectivities based on multiple other theoretical frameworks. For example, reception analysts Charlton & Neumann (1990) developed methods to study little children's attribution of meanings to television programmes. Johansen (2007) applies a media-ethnographic method to elaborate the relevance of specific programme contents for the
meaning (re-)construction of one to three year old toddlers. Central to most of these alternative approaches is the creation of an adequate array of methods that allows for the registration of children's actions, as well as for a cooperative analysis and interpretation.

The study will further refer to technology-scientific approaches that explicitly deal with the societal genesis of the meanings (media) technology devices embrace today (e.g., MacKenzie & Wajcman 1985, Schraube 1998). Here, technology and technical objects are understood as the result of human interactions over the course of history, and follow the path the cultural-historical school (e.g., Leontiev 1977) has paved for many social sciences and also German-Scandinavian Critical Psychology. By explicitly taking reference to Holzkamp (1983), Schraube (2008) states that objects – understood as materialised practices – may transmit many more meanings than originally intended. A number of these transmitted meanings cannot be anticipated, as all possibilities for action cannot be grasped. If meanings are decoded (Hall 2003) differently than socially intended, the technologies' usage may change as well. Hence the devices might also transmit wholly unexpected, alternative, nevertheless subjectively sensible meanings, while the consistently negative connotations of studies to date might result from the sole reproduction of already existing videomalaise interpretations (e.g., Postman 1985, Sartori 1997).

Empirically, the project cautiously approaches the children in their everyday situations from the subject's point of view. A transparent and substantial participant observation (e.g., Marcus 1997, Steinke 1999) of everyday life in a German and a Danish kindergarten fulfils two central requirements:

1. Getting acquainted with the children, including their specific interests and needs and their individually preferred ways of expressing themselves: Constant use of a research diary and possibly the occasional use of camera and/or voice recordings assist in determining the children's subjective preferences over the course of time.

2. Establishing a bond of trust between the researcher and the children, but also between the researcher, the educators and the parents: Clearly, the legal guardians initially obtain a transparent introduction into the research question and design, and eventually become interested in the research themselves. The whole project not only relies on their consent, but also on their active collaboration, e.g. by giving access to the family's house to observe and record the everyday use of (visual media) technology as well as the daily interactions revolving around the devices.

The implications everyday situations and interactions at the families' homes or at the kinder-garten with regards to (visual media) technology have is key for contextualising the children's perspective. It is thus necessary not only to collect data on the children's points of view, but also on the adults': Their subjective situation, meanings for visual media technology, and the stated grounds of their
actions constitute (but do not determine) the children's. Therefore after a few weeks of participant observation in the kindergarten and a first visit at the participating families' homes, topic-centred interviews (Witzel 2000) on the family's and the children's “everyday use of media technologies” are conducted with at least three educators and five parents per country to compare their subjective views to the children's.

In order to capture technology's socio-genetic potential from the child's perspective, special methods will be utilised. These methods are predicated on instruments that reflect the ways of expression each individual child prefers in its everyday interactions: Children aged three to six do not necessarily wish to talk about their subjective situation and perspective. Furthermore, verbal data especially of the younger children may sometimes be difficult to understand and interpret.

Alternative approaches to collecting significant data include, e.g., the (re-) production of situations and meanings through paper-drawings (cf. Piaget & Inhelder 1979) or role-playing games (cf. Charlton & Neumann 1990, Hoppe-Graff & Oerter 2000).
Of all Vygotsky’s psychological constructs, the concept of perezhivanie, or ‘lived through’ or ‘emotional experience’ (Van Der Veer and Valsiner 1994) has been the most difficult to define. This paper aims to define the concept by analysing it from three perspectives in Vygotsky’s work. Firstly, Vygotsky’s own definition of the concept is compared with Stanislavki’s original use of the term in his drama education, and is found that Vygotsky appropriates the concept for his own theoretical purposes. The concept is then further elucidated by its place within the Vygotsky’s scheme of the development of personality and the ‘structure of consciousness’ of the child. Vygotsky’s concept of the “psychological cell” of consciousness is discussed and its application to perezhivanie reflecting a dialectic unity of environment and person is explored. Analysis of Vygotsky’s view of perezhivanie as the new psychological formation of self-evaluation during the crisis at age seven is then considered, highlighting its intellectual, meta-conscious character. Perezhivanie is understood here as a self-distancing and consciousness of one’s own experiencing, creating a social and inner self, only possible with the capacity to generalize from and across one’s own experiences. Vygotsky relates how a severely retarded child, although frequently rejected and teased at school, does not generalize this experience as general self-worthlessness, as a normal child would, because such affective formations of self esteem require a degree of generalized thinking in order to develop a ”generalization of feelings”, “generalizations of experiences or affective generalization, logic of feelings, which appear at the beginning of the crisis at age seven”( V5p292). As Vygotsky puts it, the child at this age “is developing an intellectual orientation in his own experiences. Precisely as a three year old discovers his relation to other people, a seven year old discovers the fact of his own experiences” (V5 p291). From this text, it is argued that there has been a privileging of affective interpretations of perezhivanie at the expense of an intellectual one. This view is then considered in the light of Vygotsky’s process of intellectualization of the child in developing thinking towards true concepts at adolescence. Further support for the meta-conscious intellectual nature of perezhivanie is then discussed in Vygotsky’s treatment of imaginary play, and conscious awareness in the ZPD. It is argued that perezhivanie represents a dialectic ‘unity of affect and intellect’ but forms part of Vygotsky’s matrix of human intellectual development expressing Spinoza’s notion of freedom as knowledge of necessity. It is concluded that perezhivanie is a Vygotskian “psychological cell” that reflects a dialectic unity of environment and person, or the simultaneous awareness of one’s own experience along with
one’s own affective response to that experience. Perezhivanie is constituted by a child’s experiencing of their social environment and the personal subjectivities developed around that experience. Perezhivanie therefore provides an appropriate analytical unit for investigating the social formation of personal experiences, dispositions and personality across micro and macro developmental time scales. Closely linked to a notion of personal sense, perezhivanie embodies both feeling and thinking as ontic forces shaping a child’s spontaneous, everyday knowledge as well as their intentions and motives for action. It therefore provides an important conceptual tool for investigating students’ experiences of classroom engagement as well as the role of affect in that experience.

With such attributes then, perezhivanie is an essential psychological construct for investigating student engagement in classrooms. The relevance of perezhivanie for an understanding of student engagement lies in the central idea that students are both simultaneous and retrospective interpreters of their own (positive and negative) experiences of the social relations and activity of the class environment. In terms of negative experiences, perezhivanie promotes an understanding of the personal developmental impacts of trauma, neglect and abuse. Just as importantly, the construct has value for understanding the positive impact of the classroom environment, as well as children’s self appraisals on academic tasks on the development of positive dispositions for learning at each age and stage of schooling.
Introduction

There is widespread discussion of knowledge transfer between higher education institutions and industry (Lockett, Kerr, & Robinson, 2008) but this is largely a discussion of intellectual property as if knowledge is abstracted from individuals and groups. Knowledge, however, is embedded in a particular social and economic context (Hagar & Hodkinson, 2009). The most important knowledge transfer from the academy to industry is that which occurs through graduates; yet this transfer of knowledge and skills is often neglected theoretically and empirically. This research proceeds from a sociocultural perspective and highlights the importance of boundary objects and the social context in this transfer and the potential for expansive learning (Engeström & Sannino, 2010) in the zone between university and work that is present in professional experience. Tertiary students often comment that their workplace professional experience has a profound influence on their development from student to professional (Hascher, Cocard, & Moser, 2004), whereas university courses are seen as providing essential foundational knowledge and skills, workplace experiences “modify the way in which we interpret and may act in the world” (Edwards, 2005, p. 50). Pre-service science teachers acquire the “conduct, knowledge, practice and criteria” (Bernstein, 1999, p. 259) to become science teachers as they move through the learning communities of the Science Faculty, School of Education and Secondary Schools in which they do their professional experience (Fig 1). Despite having the common goal of developing the content knowledge and pedagogical skills of the pre-service science teachers, there is often little effective integration of these learning environments (Ure, 2009):
a. Figure 1: The student and institutional relationships

The role of universities and schools in the training of pre-service teachers is changing as partnerships and links between various institutions are forged (Goodrum & Hackling, 2008). There is an overwhelming body of evidence that the “there is a significant relationship between students achievement and the quality of teachers” (Goodrum, 2008, p. 1), so by investing in pre-service teacher’s professional development school students also benefit.

Context of the study

Deakin University has developed the Bachelor of Science/Bachelor of Teaching course in response to the need for innovation in the education of teachers of science. This new course is designed to produce secondary science teachers that are better equipped to engage their students in science, to promote strong links between science, the environment and sustainability, to promote an understanding of scientific pedagogical content knowledge and reflect a new approach to science in schools. This initiative responded to the national crisis of a lack of student engagement with the science by attracting students into science education (Tytler, Osborne, Williams, Tytler, & Cripps Clark, 2008). Tytler (2007) identified the need to develop appropriate teaching and learning approaches, teach the curriculum in contemporary settings, and promote science as a career path. This research aimed to identify components of the professional experience that provide rich and
rewarding experiences for pre-service science teachers. It examined alternative arrangements for professional experience among pre-service teachers undertaking the new four year Bachelor of Science / Bachelor of Teaching course at Deakin University: a multi-campus Australian university. This study focuses on a cohort of 17 pre-service teachers who were in their third year of the four year double degree course, and spent 40 days in schools as part of the professional experience in 2009. The research uses a case study approach collecting primarily qualitative data which included semi-structured interviews with pre-service science teachers, school professional experience coordinators and supervising teachers, the university staff involved in organising placements and science education university lecturers and a survey (science teaching efficacy beliefs instrument, STEBI B) of the pre-service science teachers.

The data sources revealed the students’ expectations, attitudes to teaching, level of preparation, teaching experiences and involvement, evidence of leadership, professional relationships and professional development. Similarly, interviews with the supervising teachers and coordinating teachers provided insight into pre-service teachers’ relationships with the university and their experiences and expectations. Validity was established through comprehensive interview data, and the consideration and inclusion of multiple perspectives, providing, at times, divergent points of views.

Discussion

“I would love to be that person gives kids a hope and aspirations to do things and make learning fun. … When I did my rounds it was tiring but lots of fun. Every day was great. I’d love to do as much teaching rounds as I possibly could but sometimes it just gets overwhelming when you’ve got other things to do.” (Pre-service teacher12)

“I want to enjoy my teaching. The only thing I learnt from this experience [of the last practicum] apart from I don’t want to become a science teacher, is that I will never bully a student teacher like that teacher did. I want the [student] teacher to enjoy his practicum and I want to help him to improve.” (Pre-service teacher 10)

The pre-service teacher and the contradictions they experienced between their science and education degrees; between the school and university; between their personal lives and the culture of the school community; and the pedagogical vision and that of their mentors are at the centre of this study. All stakeholders were working towards a common goal of providing opportunities for the pre-service teachers to develop into excellent teachers (Fig. 2). This research has shown that a block of professional experience rather than one day a week is preferred by both teachers and students, and that the pre-service teachers should have the opportunity to experience a variety of schools during their development. The role of the Coordinating Teachers was shown to be significant not
only in liaising with university, but also in managing and providing leadership within the school for supervising teachers and for the pre-service teachers: the Coordinating Teachers dealt with many issues before they became barriers or problems. The Supervising Teacher as the primary contact with the pre-service teacher plays a vital role in nurturing, supporting and leading the pre-service teacher through the difficulties of managing and organising an effective learning environment.

“She was really keen which was great so it was good for her to get right into the nuts and bolts of the profession. … I say: ‘It doesn’t matter if your lesson goes wrong you’ve got to try it out.”’ (Supervising teacher 1)

“Some of the Year 7s left them for dead as far as their science background … It just means that we have to put in more time; in addition our main aim which is teaching them classroom skills …You have to start from scratch, just survival lessons.” (Supervising teacher 6):

![Diagram showing the influences on and stakeholders in pre-service teacher’s professional experience]

Figure 2: The influences on and stakeholders in pre-service teacher’s professional experience

Many of the issues concerning the scheduling and lack of preparedness were dealt with through changes to the programming of the professional experience. The results reinforce the importance of setting up a progressive staged development of the professional experience program over the maximum time available (4 years), and recognise the limitations of the double degree commitments. Knowledge of workplace etiquette and professional behaviour has also been shown to be integral to a positive professional experience and these need to be explicitly presented to pre-service teachers. Professional relationships have been shown to be instrumental for the success of the professional experience. These partnerships between university and schools promote a strong and shared vision for the pre-service teachers’ professional experiences and provide opportunities for links between
theory and practice and for expansive learning.

“I learnt so much more doing the practicum, I picked up more in 20 days than I did in 2½ years at university” (Pre-service teacher 7)

References
492. Cognitive aging; what is that the aging of? Semiotic mediation in old adults and old adults with Alzheimer’s disease

Kolbein Lyng

Introduction

The study of the aging is in principle a study of human development. Given that developmental change is a multifactorial process (Baltes, Rees & Lipsitt, 1972), the complexity of change process in the later part of life also must be recognized. Although such a complexity is recognized cognitive processes continues to be studied as purely non-mediated activities when cognition in old adults is studied. Cognition in old age has been studied within areas like intelligence, problem solving and memory. The mainstream approaches to the study of cognitive aging seems to presuppose that there are a set of basic cognitive processes that are influenced negatively by a biological aging process (Craik & Salthouse, 2000; Salthouse, 1991). The result of this process can be observed as a decline in scores on standard intelligence tests, instruments assumed to measure basic fluid intelligence. Basic memory is assumed to be measured by episodic memory performance. Semantic memory and crystallized intelligence is according to the same position contaminated with learning and cultural artifacts and cannot measure the “pure” and “basic” mental entity. The majority of cognitive aging studies shares a similar idea of aging basic cognitive processes, that the effect of this can be observed on tasks that tax these basic processes. The basic entities has been fluid intelligence (Horn & Cattell, 19), mechanisms of mind (Baltes, 1993), speed of processing (Salthouse, 1985;2009), inhibition processes (Light ) to mention some. Other abilities like crystallized intelligence, pragmatics of mind and reasoning has been held up as abilities where compensatory mechanisms related to knowledge, experience and good strategies make older adults keep up their performance. Within memory research, episodic memory and working memory has been held up as more basic than semantic memory and a similar compensatory mechanism assumed operating in remembering (Dixon & Bäckmann, 1992). This distinction between basic (mechanics) and pragmatic processes (of the mind) is the kernel of M.M. Baltes and P.B Baltes (1990) theory of selection, optimization and compensation (SOC), a position that is widely accepted in geropsychology. 

From a cultural-historical perspective, these distinctions are inadequate in their reduction of semiotic processes to a compensatory process, and that semiotic meditational processes are not seen as inevitable parts of the development and function of human cognitive functioning.
The studies reported here developed a way of examining human cognition in old age using a hinting procedure as suggested by Vygotsky (1978) in his elaboration of the concept of the zone of proximal development. The work presented is also inspired by the attempts to develop dynamic testing (Lidz, 1987; Haywood & Lidz, 2006; Sternberg & Grigorenko, 2003).

**Method**

Two studies of cognitive assessment of older adults will be presented. The first intended to detect zones of proximal development among older adults through a classical hinting strategy. The hypothesis here was that older adults with lower education would have larger zones of proximal development due to lack of relevant concepts.

The second study investigated to what extent the cognitive malfunctioning in Alzheimer’s disease could be attributed to a breakdown in the meditational system of semiotic signs.

The participants (N=87) in the first study were recruited from welfare centers for the elderly in Oslo. The test material contained a selection of items from Ravens Standard Progressive Matrices (Raven, 1987). A set of verbal hints was developed for each items based on a concrete version of the original item. Hints were given if the original task was not solved correctly. Post-tests without hints were administered after the experimental tasks were completed. Before the experimental tasks the participants were tested on WAIS and Culture Fair Intelligence test (Cattell, 1963). The participants were randomly assigned to a condition with hints (experimental group) and a condition of ordinary test procedures (control group).

The second study asked if a breakdown in semiotic meditational means could be the major sign, distinguishing healthy aging old adults from individuals with Alzheimer’s disease. Ten individuals with Alzheimer’s disease, 20 healthy old adults and 20 young adults participated. Twelve items from the first study and their concrete versions were used as test items. Verbal hints were developed for each task.

**Results**

The results from the first study showed that verbal hints increases the performance on the test and that the hinting procedure makes the difference in performance between the two levels of education less pronounced. The effect of hints, however, did not transfer to a post-test as the performance drops to the pretest level.

While there was an overlap of scores between people with AD and the healthy old adults under ordinary (no hint) test administration, there was no overlap in scores under the hinting conditions. Even given nearly all the hints available the participants with AD only made marginal improvements. The results indicated that the meditational properties of language do not function adequately in persons with AD. The meditational deficit can serve as a possible diagnostic sign to
distinguish older adults with AD from healthy old adults.

Conclusions

The two studies demonstrated that by introducing semiotic tools in solving problems on typical intelligence test items, we might gain insight into the cognitive processes operating. This could be extended further by studying closer the dialogue between the experimenter and the participants together with attention processes (monitoring gaze) the type of errors made into a more naturalistic study of problems solving, trying to reveal strategies and ways of thinking instead of being obsessed with the products.

The literature on cognition and aging clearly shows that much of the variability in performance is associated with semiotic mechanisms, culture, education and practice (Dixon & Bäckmann, 1992; Schaie & Labouvie-Vief, 1974; Schaie & Zajani, 2008)

To what extent the study of aging is meaningful for phenomena like cognition relies on how such an aging process could be conceived. Accepting mental entities like fluid intelligence, processing mechanisms, processing elements as units of study deprives the study of cognition vital components in a complex historically and culturally determined phenomena.

References


This paper results from a doctoral research on the issue of emotions in Vygotsky’s work in its relation to the notion of signification. In the detailed study of its production, since Hamlet to the text Theory of Emotions, we raise the issue of emotion and its theoretical status within the cultural-historical perspective of human development. For presentation purposes here, we chose to focus on some points concerning the conceptual discussion and the problem of development of emotions.

Investigating the issue of emotions in the work of Vygotsky can be a challenge, because it refers to a theoretical formulation that crosses different fields of science and knowledge and brings several inter-locutions; in most of his work there is an explicit concern to distinguish between the terms (affection/feeling/emotion); and the Theory of Emotions, one of his latest works, was left unfinished, raising controversy.

Clot (2003) indicates the closeness in the elaborations of Freud and Vygotsky about emotions and the unconscious, and the possibility of transformation of the affects in the activity of the subject. Regarding the development of emotions, Van der Veer & Valsiner (2001) claim that Vygotsky would have given up producing something on Spinoza because after this study, he understood that the answers to this issue were not within his philosophy. Opposed to this version, Sawaia (2000) argues the ideas of Spinoza, supports the work of Vygotsky, more specifically in his discussion of emotions in the concept or category of system.

We focused on Vygotsky’s dialogue (according to Bakhtin, 2002) with Freud, Spinoza and Marx, and we explored the meanings this concept assumes in different moments of his work taken to the Vygotsky’s references as a focus of analysis and then the work of those authors.

In this interweaving of interlocutions, we are faced with the problem of the relation between emotions and psychological functions, and we can trace some inspiration and specific contributions. For Vygotsky, Freud shows: the most important idea in the study of emotions that is not the organic components following emotions, but rather its transformation in the dynamics of emotional life. Moreover, we marked some considerations about the concept of affect and its relation with the unconscious and the drive (pulsion) as locus of elaboration of the body/mind relation. In this regard, the contribution of Spinoza is related to the way Vygotsky elaborates on the relations among higher psychological functions and the concept of personality; relation between emotions and consciousness (becoming conscious of emotions); the dynamic interrelation between affect and
intellect. Espinosa introduces a way of dialectically thinking the concept of affection, not only in a passive, but rather active way by considering the integral dimension of the emotional process (affectio), which includes the ideas and the affects (affectus) in the relation between body/mind.

The problem of function, classification and development of emotions, and their relation to consciousness brings us to the current debate. Delafosse(2004), regarding the development of emotions and the importance of further dividing emotions into primary and secondary emotions, refers to Vygotsky and Damasio, alluding to a rapprochement between the authors. Damasio(2005), devoting himself to the study of emotions and the problem of consciousness in his latest book, refers to Espinosa, James, Freud, authors with which Vygotsky dialogued. This fact becomes extremely provocative for us, and intensifies the debate. The neurologist conceives emotion and feeling as distinct categories and explains the emotional process as a mechanism that has developed and became more complex (including neural terms) to the level of feelings during Evolution. So, the feelings related to consciousness, not emotions, are the ones that would be on top of the process of phylogenetic development.

Opposed to the James-Lange's theory, Vygotsky(2004) argued that emotions could not be separated from consciousness, as this fact makes it impossible to develop them, and indulge in a sort of biological absurdity "that attested to their lack of functionality of these”. To solve the issue, he turns to Spinoza in search of items to enrich and thicken solutions to the neuropsychology of his time to come. But if the philosophy of Spinoza is something important to put an end to the dualism, when considering the emotional integral process, the body and mind unit, and relations among the functions, in fact, regarding the historical development of the emotions, the thought of Marx becomes essential to overcome the mechanicism and the naturalism - that stays in the current debate and becomes explicit in the elaborations of Damasio.

About Marx, we highlight the discussions about the relations of object and affect, and the relations that Vygotsky describes between consciousness and language in childhood development by considering the history. The language emerges as a way of understanding the self and a way to elaborate emotions. The issue about sense and meaning assumes the central role in this process related to emotions. For Vygotsky, it is important to have a dialectical interpretation of the emotional process, because the history of the development of human emotion involves considering the process of enrichment and not extinction of emotions in history and culture.

In these considerations about Freud, Marx and Spinoza, and discussion about Damasio, we find the controversial issue initially pointed out by scholars of Vygotsky who referred to the problem of development of emotions. Thus, Vygotsky brings an important contribution to the current debate: the emotions are complex process that develop in the history (social and individual) in its close
relation to the thought, language and other psychological functions of human consciousness, which assumes a different status in the psyche. But, another question emerges: Do emotions become higher psychological functions? Or simply does a part of the system inter-functional complex, dynamic?

Vygotsky, in fact and at any time, certifies that emotions are higher functions - this leads to numerous questions. To further these questions, we revisit the discussions of contemporary authors who focus on this issue by assuming the Vygotskian perspective.

Clot(2009) argues that emotion concerns the repertoire of tools and body of the subject and is bodily experienced by each individual. However it is socially constructed, shared and even contagious. Emotions are, therefore, cultivated in the feelings - collective representations and social instruments of thought that give norms, ideals and values.

Sawaia(2000) discusses the great diversity in the concepts of emotion: feeling and emotion, arguing that some regard them as synonyms, others distinguish emotion from feeling, connecting the first to the organic instinct, and second, the rational, to the symbolic. For this author, Vygotsky's position is that emotions are also mediated functions, a superior human feeling, because the body reacts to the meanings, so that the brain synapses are socially mediated. Sawaia suggests a distinction, in terms of temporality, inspired by the distinction which, he claims, Spinoza makes between instantaneous states and essence; and that essence cannot be measured by such instantaneous states.

Pino(2000), when discussing the term of function and status of the social and the cultural work of Vygotsky, points out the issue of social relations and higher functions, and argues about the social nature of psychological functions. The higher mental functions are those affected by culture, by the sign in the process of human development in history.

The problems outlined along the interweaving of interlocutions show the development of a concept of emotion intrinsically linked to consciousness/language/signification and that emotions becomes part of the complex functional system, articulated in to the density of the explanatory principle -based in the historical and dialectical materialism, and in the use and creation of tools and signs. Hence, the notion of emotion becomes (re)conceptualized, as men’s organic dimension is affected by the language and sign, produced in/through the human activity and social relations.

In the background, discussing the issue of development of emotions in the work of Vygotsky implies thinking emotions under the laws of cultural development and the emergence of the sign, and the possibility of meaning, and the double set of psychological functions (elementary and higher) and its (trans)formation and conversion and interrelationships that (re) produce this process. These considerations, therefore, require a deepening of our empirical investigations.
References


1. Introduction

The aim of this study is to develop new methodology for understanding complex and innovative collaborative learning processes occurring during formative interventions and experiments. In this activity-theoretical study the main focus is in the theory of expansive learning (Engeström, 1987), which describes the logic of qualitative transformations of activity systems. An expansive transformation is accomplished when the object and the motive of the activity are reconceptualized leading to a radically wider horizon of possibilities than in the previous mode of the activity. The theory of expansive learning is based on the dialectics of ascending from the abstract to the concrete through specific learning actions. The initial simple idea "germ cell" is transformed into a complex object, into a new form of practice. Together these learning actions form an expansive cycle or spiral. The expansive cycle begins with individual subjects questioning the accepted practice, and it gradually expands into a collective movement or institution. The learning actions or the phases of the expansive cycle are following: questioning, historical analysis, actual-empirical analysis, modeling the new solution, examining the new model, implementing the new model, reflecting on the process and consolidating the new practice. The occurrence of full-fledged expansive cycle is not common, and it typically requires concentrated effort and deliberate interventions.

2. Intermediate theoretical tools

A detailed analysis of the organizational communication requires intermediate theoretical tools that fall between specific data obtained and general main theory used. In this study different data-sensitive intermediate theoretical tools were utilized to open up the logic and the step-wise progression of the expansive learning. Three groups of such intermediate tools were used, which were functioning in the different levels in the analysis of interaction. The first group was formed of different qualitative types of interaction; coordination, cooperation, and communication (Raiethel, 1983; Fichtner, 1984). In this group belongs also pseudo-cooperation, which is the modification of cooperation, and pseudo-communication, which is the modification of communication. These interaction types were used to analyze the overall quality of interaction in the level of the whole interaction situation. The second group of analytical tools includes different visible deviations and hidden tensions in interaction at the level of the single interaction episodes. Such deviations and tensions were disturbances, ruptures, innovations, and attempts for cooperation or coordination. These analytical tools were used to locate the important transition phases between larger analysis
categories like types of interaction. The third group consists of specific concepts, which worked as markers or indicators of the crucial moments in interaction. These specific markers used in this study were the concept of turning point and the concept of reported speech, which could be identified in the level of the single conversation turns.

3. Expansive learning at different levels

The theory of expansive learning has been used to study transformations at different time-scales. Realization of the cycle of expansive learning is possible to consider at the macro-, meso- and micro-level of activities. Macro-level cycles of expansive learning are often large organizational changes spanning on several years of time and also sometimes consisting several successive cycles. These macro-cycles of expansive learning consist of several smaller, meso-level cycles. The whole meso-cycle can take some days, weeks or months to complete. The meso-level of expansive learning represents studies which use Change Laboratory interventions (Engeström, 2007) as a method for facilitating change and for collecting research material. Variations of Change Laboratory have been used in a large number of intervention studies in settings ranging from post offices and factories to schools, hospitals and newsrooms. A meso-level Change Laboratory intervention often takes place as series of six to twelve weekly meetings of one or sometimes several organizational units. The Change Laboratory process proceeds by following the overall structure of the expansive cycle and its learning actions. Meso-cycles in turn include several smaller micro-level cycles. These micro-level transformations typically include intense debate and problem solving, which generates partial solutions and innovations. From every single Change Laboratory meeting is possible to find a more or less complete expansive micro-cycle to use for the analysis. However, there are very few Change Laboratory studies, which analyze expansive learning also at this micro-level of interaction.

4. Research questions

The aim of this study is to find out first, how collective object formation process proceeds through different learning actions of the expansive cycle. Secondly, how the collective object formation process is related to different qualitative types of interaction and what are the crucial transition phases between the different types of interaction. Thirdly, what are the possible similarities and differences between learning actions of an expansive cycle and different qualitative types of interaction. Fourthly, how to combine the meso- and micro-level expansive learning processes in object formation.

5. Analysis of the data

In this study a new method for combined analysis of learning and interaction was created. In this method same data is analyzed using two different categorizations: learning actions of the expansive
cycle and qualitative types of interaction; coordination, cooperation and communication (see Engeström, 2008). This combined analysis is supplemented with disturbance analysis by identifying the crucial deviations and transitions from the data. The new method was first tested as a pilot study for the analysis of the planning session of teacher students. Transcription of the students' conversation was analyzed by classifying the turns of conversation following phases of the expansive cycle. Nonexpansive phases, which did not fit into the expansive cycle, were given provisional names. After that the same conversation was categorized again by using the qualitative types of interaction; coordination, cooperation and communication. Analysis of the interaction was supplemented with the disturbance analysis, where different deviations in interaction were traced. These disturbances were analyzed more detailed way to be identified either as cooperation or communication attempts. Also possible ruptures and innovations were identified.

6. Results
A careful examination of the results of the combined analysis made it possible to understand the two-phased process of the object formation. In the analysis of the learning actions the process of the object formation proceeded through two main phases. First main phase consisted of the process of finding and defining the problem and it was called "working on a problem". Second main phase consisted of the process of examining and implementing the new solution and it was called "working on a new model". In the analysis of the interaction types the process of the object formation was also two-fold. The first main phase of interaction was dominated by the struggle for creating a shared object and it was called "coordination". During second phase participants had one shared object and that is why it was named "cooperation". In the level of the main phases it was possible to notice a strong interdependence between the different analysis methods. The complementary disturbance analysis located a crucial transition phase between the main phases in the same conversation episode in both analyses. This transition was facilitated by powerful rhetorical device, reported speech. At this same moment the finding of the new solution and the widening of the object occurred, so the turning point of the collective object formation was possible to locate in this same transition phase. In consequence of this it was possible to create two unifying categories "coordinated working on a problem" and "cooperative working on a model", which described in a compact way the intertwined processes of learning and interaction behind the object transformation.

7. Discussion
A methodological challenge of this study is to connect the micro-level potential solutions and innovations to broader meso- and macro-level developmental processes. In next stage this method will be applied for the analysis of the whole Change laboratory process taking place in the Central
Campus Library of the University of Helsinki at end of the year 2010. Change Laboratory meetings will be analyzed by using the new combined method presented in this study. After this the results of the separate analyses of the single meetings are brought together and the process of the collective object formation is considered at the level of the whole Change Laboratory process. At this point in the light of the results the possible potentials and limitations of the new analysis method are reviewed.

References
Information and Communication technologies have been transforming our social relations in the world of work, entertainment and school. They are important tools for research, education and social relationships. From the point of view of the Activity Theory (Leontiev, 1978; Engeström, 1987, 1997; Cole, 1997; Davydov, 1999), we could say we are facing the challenge of appropriating new cultural and material tools. As a consequence, we face new forms of thinking and understanding the world, new ways of solving problems, of living and acting in virtual communities, of searching for information and of building knowledge.

Blended-learning has been implemented in some Brazilian university institutions as a tertiary contradiction and consequently, the undergraduate student has been forced to deal with this new situation.

The Languages Undergraduate course of the Pontifical Catholic University of São Paulo has introduced eight blended-learning disciplines in the Language curriculum since 2006. By implementing this kind of learning we have the opportunity to form qualified future teachers that will be able to deal with technology in their professional lives.

This paper is based on a research that has been carried out in the undergraduate Language Course of the Pontifical Catholic University of São Paulo. Having the activity theory as its main theoretical background, our objective is a) to investigate the contradictions in the activity of implementing blended-learning disciplines from the point of view of the student, b) to analyze the virtual language learning students’ profile as far as the competences and skills needed for learning in digital environments, c) to identify the most frequent contradictions in the activity system and d) to suggest improvements that could be implemented in the system in focus.

Besides the activity theory as our theoretical framework, we have used content analysis theoretical support to analyze the writing data that has been produced by the students.

The components that form the activity structure of our activity system are: subjects – first-year students (from 2006, 2007, 2008 and 2009); object - Digital Technologies (the first blended-learning discipline of the curriculum); artifacts/ tools – virtual learning environment – Moodle, web-content pages, student-generated documents and messages, WWW, computer and the language used in the instructions and for communication among the participants (Portuguese). By interacting, the participants share and build knowledge following rules that are established by the teacher, the
university and by the participants of the activity system, forming a community – the members of the
digital classes, and following a division of labor.
It is important to observe that in our study, we deal with many tools in our mediation as the tasks
are mediated not only by the instructional language used but also by the material tools (Moodle’s
working spaces: diaries, assignments, discussion forums and the computer itself).
Digital Technologies syllabus was organized into twenty weekly themes and topics, summing up a
40-hour-long course. The course was designed by using the following Moodle’s spaces:
• Agenda – to organize content throughout the 20 weeks of the course.
• Diary – to register information based on individual written assignments.
• Discussion forums – to register students’:
  • questions to solve doubts about the course or about the learning environment;
  • contributions to discuss about topics related to the content of the courses.
• Tasks – to register individual assignments (comprehension of theoretical texts, individual
searches, etc)
• Wiki – to promote collaborative writing.
The course also included reading assignments, weekly asynchronous discussion topics and
questions, supplementary reading material and related links. To connect to the course Web site,
most of the students used a commercial Internet and e-mail provider besides the Internet facilities
available at PUC-SP or in their houses.
In the individual’s journey to the object of the activity, the subject is exposed to several mediating
components (tools, division of labor, rules) that can create contradictions between the subject and
the object of the activity. The contradictions originate the cycle of expansive learning and they
change the object of the activity and its relationship with the mediating factors. Changes can create
other contradictions, other modifications in the object and new cycles of expansive learning.
In our context, the introduction of blended-learning disciplines in the Languages Teachers’
Formation Course can be seen as a tertiary contradiction because of the reasons described ahead. In
Brazil, incentives to the ICT use in schools and research developments started with a series of
actions made by the Brazilian government in the nineties. A program called PROINFO was
launched to disseminate ICT in Brazilian public schools and to support the teaching and learning
processes mediated by ICT.
In 1996, the government passed a law (Law of Directives and Bases for Education) that recognized
distance learning as a valid educational modality for all levels of education in Brazil. From this
moment on, post-graduation courses started to be offered nationwide and in 1998, the Ministry of
Education authorized distance undergraduate course. In 2001, the National Education Council
(CNE) authorized all universities, faculties and technological centre to offer online courses up to 20% of the curriculum load of their ongoing recognized undergraduate courses. At the same time, published official documents demanded the urgency of incorporating ICT in undergraduate teachers’ formation courses in an attempt of an educational renewal that could lead to the integration of the individual into modern society.

Following this movement, the Communication and Philosophy Faculty of the Pontifical Catholic University of São Paulo (PUC-SP) has decided to introduce blended-learning disciplines in the curriculum of the undergraduate Languages (English, French, Spanish and Portuguese) Teachers’ Formation courses because we understand that the development of the necessary skills for the use of ICT is not only an issue of improving technical abilities but an issue of reflecting upon the learning process, conceiving technology as a socio-cultural tool created on the basis of historical human knowledge accumulation.

As a consequence of such implementation, students’ resistance to this new form of learning was common in 2006 when they were faced with their first course [Digital Technologies] that aimed at preparing the students for blended-learning education and for Internet educational use. Their resistance could be perceived in 3 aspects: a) affective: fear of failing the course because they missed the direct contact with the teacher and felt lost in the learning environment used, fear of computers, negative preconceptions towards blended learning; b) material: no computer at home, no Internet access, some had to go to cyber cafés and, consequently, spend more money to study, no time to access the course site, mainly the evening students who worked all day long; c) cultural: they had the impression they were not studying because they did not have a fixed place and time to access the course; some of them even suggested that they could have classes once a week in the university lab, they did not have an adequate profile to be a distant learner, difficulty in understanding the course objectives.

As the students did not participate in the process that decided for the introduction of blended-learning disciplines from the beginning, they did not have the opportunity of critically questioning the traditional way of learning to be able to suggest or to accept a new form of studying.
Brenda Lansdown developed the Investigation-Colloquium Method (I-CM) of teaching science over 40 years ago based on the work of Lev Vygotsky. She presented a thorough theoretical frame for informing and guiding science teaching and learning. Her book, Teaching Elementary Science through Investigation and Colloquium (Lansdown, Blackwood, and Brandwein, 1971), outlines an early and detailed interpretation of Vygotsky’s theories of conceptual development and provides a conceptual scheme in science. She makes brilliant connections between Vygotskian theory, the nature of scientific knowledge, and the role of the teacher. This pedagogy includes careful consideration of materials presented to students for science explorations and promoting children’s language use through the colloquium. George Tokieda, a student of Brenda Lansdown, incorporated creative drama into the I-CM model and labeled the creative drama experience "pantomime." A pantomime is a non-verbal, improvisational, creative drama activity in which students work individually or in groups to communicate their ideas about a scientific concept or model.

His initial motivation for incorporating creative drama into the model was for work he was pursuing with a population of students who had developmental delays in language. He found this strategy to be effective with all his students. Thus, creative drama became incorporated into the colloquium. This was to help children develop a model of an abstract interaction or concept in a way that makes sense to them. As concepts being taught may otherwise be inaccessible, the pantomime helps children who may have difficulty stating what they understand.

In a pantomime, the students act out the phenomenon being studied and discussed. For example, in a study of light and heat, several students might play the part of molecules on the surface of a black, clear, or silver object, and another student might be a photon. The students would pantomime the interaction between the photon and the molecules. Other examples include students becoming molecules of air that are slowly heated up, blood cells bringing oxygen to muscle cells, or a wave moving through a body of water. See Appendix A for additional examples.

There are a number of ways that children can be asked to "act" as part of a learning experience. Drama educators recognize an important role for this in the classroom for all the academic subjects. Creative drama is defined by Cottrell (1987) as:
an art form for children in which they involve their whole selves in experiential learning that requires imaginative thinking and creative expression. Through movement and pantomime, improvisation, role-playing and characterization, and more, children explore what it means to be a human being. (p. 1)

An interesting parallel exists between the field of creative drama and science education with a constructivist epistemology. In both creative drama and science education, the primary goal is for students to build meaning of the world in which they live. Drama educators perceive creative drama as their link to all the content areas. These educators view creative drama as a strategy to help children learn in all the academic areas.

Many elementary teachers employ creative drama in teaching content areas (Salisbury, 1986). The use of forms of creative drama are widely advocated for science teachers at all levels. Two typical examples include articles about having biology students act out muscle contraction (Hudson, 2003) and mitosis (Wyn & Stegink, 2000).

Drama educators claim that creative drama techniques are helpful in teaching concepts in many curriculum areas, including science; however, most of the studies focus on language arts and support the use of creative drama in enhancing language development, writing, and reading comprehension. One article discusses the value of creative drama for assessment in ESL classrooms (Tannenbaum, 1996). There is limited research which explore the use of creative dramatics in science education. One study does directly examine the use of creative drama in science. Metcalfe, Abbott, Bray, Exley, and Wisnia (1984) compared two science lessons. One lesson included a creative drama activity where students represented molecules and moved in time to a metronome. The metronome represented heat, and the children were shown that they need more space at a faster beat. The students were given a delayed posttest with three classes of questions: factual recall, explanation, and interpretation. The class participating in the drama activity did significantly better on both explanation and interpretation questions. This finding supports the notion that creative drama may be a valuable tool. The study showed that, at least in this setting, creative drama "can be a vehicle for developing important insights" (p. 80). The higher scores in explanation and interpretation questions may be an indication that the students who used creative drama had constructed more complete models of the concepts.

Creative drama has been presented as a strategy for authentic assessment (Kamen, 1991). It was viewed as a “powerful assessment instrument” helping the teacher in a pilot study to know what her students didn’t understand.

The author conducted two case studies to explore the implementation of creative drama in elementary science classrooms. The two teachers, Mr. Clark and Ms. Wilco were interviewed and
observed teaching science lessons that incorporated creative dramatics. Students were given pre and post tests and interviewed. Analysis of the data provided evidence of the effectiveness of creative drama in promoting understanding and enhancing instruction. The teachers and students both perceive creative drama as an engaging and enlightening activity. Several assertions emerged:

Creative drama is most effective when used with other forms of instruction, such as discussion, reading, experiments, and demonstrations. When planned well and integrated into the curriculum, creative drama is a powerful technique for helping children learn science concepts.

Creative drama can help bridge the gap between spontaneous concepts and scientific concepts. Discussions enhance the learning and understanding from creative drama activities and creative drama activities actively enhance the quality of the discussions.

Creative drama is effective because it engages the students. The students enjoy creative drama activities and attend to the lesson. It gives them concrete examples of the concepts that are being taught. Since the children themselves are the players, they can relate to what is happening. The creative drama activity presents students with the opportunity to form spontaneous concepts about the scientific concepts being taught.

With the guidance of the teacher, creative drama provides connections between spontaneous concepts and scientific concepts. This is strengthened by the rich language during the discussion and debate that follow a creative drama activity.

Students add to their understanding of a concept with the guidance they receive from other students and the teacher during the creative drama experience. The diverse population of children in the two groups supports the conclusion that creative drama is effective with a wide range of children.

The strong positive gains in the students' understanding and the positive perceptions of both teachers and students lead to the conclusion that creative drama should be used to enhance the instruction of science.

The effectiveness of creative drama can be linked directly back to Vygotsky’s ideas as well as to other work. Holzman (1997) argues for a connection between play and performing with “Vygotsky’s sense of performing beyond yourself or being a head taller than you are.” O’Toole, Stinson, & Moore (2009) discuss Vygotsky’s writing about “learning and dramatic play…exploring its role in the formation of understanding of symbols, rules, and social structures.” As well as ZPD as a “key concept that links drama education to language development…where children in social, motivated and supported contexts are capable of moving to levels of symbolic and abstract thought of which they are not capable by themselves.” They argue that this explains “why children in drama, dramatic play and even grappling with complex given dramatic texts, frequently and easily express and articulate ideas and language that are far beyond the maturation
levels that they ought to be at, according to Piaget.”
This also connects to the notion of the Dual Affect “acknowledges that children can intellectually
and emotionally exist simultaneously and effectively in two worlds; one real but suspended as far as
necessary, and one that is fictional but is the ‘operational’ world of drama. As Vygotsky (1933)
writes
Thus, in play a situation is created in which, as Nohl puts it, a dual affective plan occurs. For
example, the child weeps in play as a patient, but revels as a player. In play the child renounces his
immediate impulse, coordinating every act of his behavior with the rules of the game. Groos
describes this brilliantly. He thinks that a child’s will originates in, and develops from, play with
rules.
500. Emotions in the classroom

Mabel Encinas

Literature overview

Emotions have been cursorily acknowledged in research about teacher development (Goodson 1992; Pollard 1997; Cochran-Smith and Lytle 1999; Day 1999), and studies of classroom interaction (Delamont 1976; Edwards and Mercer 1987; Edwards and Mercer 1989; Jewitt 2005; Mercer and Littleton 2007). On the other hand, studies that refer to teachers’ emotions hardly consider the ways in which emotions are played out in the classroom, as if they were individual, mostly physiological and ‘subjective’ responses to the environment. Emotions have been commonly described as epiphenomena that take place independently of the social practices, which then can be studied through the expressions of the individuals, as for example in the case of teachers (Hargreaves, 2000; Hargreaves, 2002a; Hargreaves, 2002b). In the last three decades, however, emotions have been studied in sociology (Bendelow and Williams 1998), either in the social construction of emotions by focusing for example in the way in which individuals sell their emotions to institutions as emotional labour (Hochschild 2003), or by focusing in the biological prerequisites of emotions in relationship human evolution as a species (Turner 2000; Turner 2004; Turner and Stets 2005; Turner and Stets 2006; Turner 2007). This has delineated two sociological perspectives in the study of emotions: on the one hand, a socioconstructionist perspective that emphasizes culture and diversity, and history in the last instance; on the other hand, a ‘realist’ perspective that emphasizes the embodiment of emotions in the body, as hardwired, and as human processes embedded in life evolution in the last instance.

Vygotsky’s (1997; 1999) hints for a non-Cartesian psychology constitute the basis on my argument. His work, I argue contribute to a comprehensive and integrated approach to the understanding of emotions that does not start by framing the relation body/society as a contradiction. As a consequence, this approach understands the individual and, concurrently, the social character of emotions. In this way, emotions are simultaneously biological and social.

There are three features in Vygotsky’s work that constitute the foundation for a sociocultural study of emotions, I argue. First, his comprehensive view of psychology aims to study consciousness, behaviour and the unconscious as a whole (Vygotsky 1997). Second, his orientation to practice constitutes the way forward to develop a such a unified psychology (Wertsch 1988; Vygotsky 1997). His historical approach (Scribner 1985) to the understanding of psychological ‘features’ as constituted through the participation in practices (Vygotsky 1997).

Aims
This research aims to construct an integrated sociocultural theory of emotions that can, on the one hand, explain the role of emotions in the classrooms, and particularly in the classrooms observed; on the other hand, the comprehensive sociocultural theory, as such. This theory aims to understand the intertwined individual and social character of emotions.

Methodology
This methodological approach is informed by ethnographic, which also involved an intervention in a Mexican urban secondary school (junior high school). The work was developed with four experienced mother tongue (Spanish) teachers who were in the initial stage of using information and communication technologies for teaching. The main data comprises excerpts extracted from 45 videos of class observations of four experienced Spanish (mother tongue) teachers in a Mexican urban secondary school. Each excerpt constitutes a micro situations in which emotions take place as part of the pedagogic practices in the classrooms studied. Additional data include field notes and semi-structured and unstructured interviews with the four teachers and other members of the school staff. These data offer the possibility of understanding the context, and how emotions are part of that context.

The need for a theory that does not overlook emotions in the workplace had its origin in the need for explaining teachers’ practices and knowledge inside the school.

Outcomes
In this paper findings are presented, first, as a discussion of the approximation to the data gathered in a Mexican secondary school, through an example; second, as a set of considerations for the construction of an integrated theoretical approach to the study of emotions.

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Cross-cultural perspectives on ability and disability: A framework for special education in the United States

Uk Kim Hyun - Jennifer Goldberg

"Throughout history humans have sought to explain and to treat behavior that was considered deviant." (Coleman & Webber, 2002, 1).

However, the nature of a disability and deviant behavior only make sense when brought into a social context and culture. The challenge of a disability is not an actual impairment, but rather the social implications, including expectations and attitudes of people within any given society (Vygotsky as cited in Gindis, 1999). A child may be identified as having a disability. Description of a disability, identification labels, assessment tools, and teaching practices are based on a society’s view of what typical development looks like. Professional disciplines are further influenced by a given societal view. For instance, a psychiatrist may describe a child as “mentally ill” while a psychologist may do so as “emotionally disturbed” and “behavior disordered” by a special educator (Hobbs, 1975, p.57).

In this paper two researchers explore cross-cultural perspectives on special education to consider how students with different abilities are perceived in different cultures and people, and how this connects to their school experiences embracing McDermott’s (1993) notion of learning acquiring people. Secondly, we draw on the implications to provide a framework for reconsidering current trends within Special Education in the United States for re-conceptualizing abilities and disabilities given contradictions that emerge across and within cultures.

We come together from different traditions and countries; one who teaches in a department of Curriculum and Instruction with a sociocultural lens, primarily raised in the U.S. and the other who teaches courses in Special Education, raised in the Republic of Korea (herein Korea) and educated in the U.S. We have different experiences teaching children identified with special needs and have worked with teachers and families in multiple countries (the United States, Korea, and Nicaragua).

In addition to multiple perspectives (of two researchers and multiple participating community members), detailed field notes were taken based on participant observations in home, community, school, and hospital settings in three countries. Community members were interviewed in both unstructured and semi-structured formats. These interviews were conducted in a wide range of settings in all three countries, including elementary and early childhood schools, homes, formal institutions (i.e., hospital, university), and other community locations (restaurants, markets, etc.).
Interview questions focused on beliefs about students of different abilities as well as gathering information about special education programs.

During our analysis of field notes and interviews, we seek to keep three lenses described by Rogoff (1995) in mind:

• Personal focus – looking at individual teachers, students, parents, and other community members;
• Interpersonal focus – including social interaction and the communication between multiple people; and
• Community or institutional focus – viewing special education programming within an historical setting.

With each focus, some things are blurred; but, of course, they still exist. Therefore, each focus are looked at individually and then analyzed as a whole to form a more complete lens.

We are cautious about drawing conclusions based on our comparison of perspectives on special education. Therefore, instead of focusing on an evolutionary model of one country employing a more progressive culture than another, we emphasize illustrations of differing cultural approaches to special education.

In our analysis, the importance of language and social interaction was confirmed throughout. Also, contradictions in all three cultures emerged in our study. The ways that students experience schooling are clearly based on culturally defined systems of practice (Gutierrez & Stone, 1997). The roles of teachers and parents become ‘muddied’ at times as contradictions in societal expectations are tangled.

Schools do not meet the needs of all students; therefore, if we believe in free appropriate public education for all, we need to match up students with a more effective education. It is time that we let go of the confines of our perceptions that children with disabilities are different and difficult. It is time that we rethink and redo schooling for the new generation development in a global world.

References


Vygotsky’s insistence on the primacy of social interactions as drivers of development has led to a widespread recognition that thinking, particularly thinking about other people’s thinking, is grounded in and informed by active, facilitated participation in social situations (Hobson, 2002; Rogoff, 2003; Carpendale and Lewis, 2006; Fonagy, Gergely and Targett, 2007; Rochat, 2010). Vygotsky defined the social situation of development as ‘nothing other than a system of relations between the child of a certain age and social reality’ (1998: 199) and emphasised the active role of the child in the construction and transformation of these relations. He recognized that conscious thinking must blossom out of earlier, primary modes of interaction, arguing that thought ‘has its origins in the motivating sphere of consciousness, a sphere that includes our inclinations and needs, our interests and impulses, and our affect and emotions. The affective and volitional tendency stands behind thought’ (1987: 282).

In this paper I will present an account of very early interactions to argue that exuberant playfulness both requires and reinforces a social situation in which feelings of familiarity are reinforced and attention is foregrounded. The early sharing of positive affect is particularly marked in human interactions and this early intimacy may have a special role in both the phylogeny and ontogeny of human culture because awareness of the focus and implications of other people’s attention is fundamental to the infant’s progressive discovery of meanings in social activity.

The intimacy of primary intersubjectivity (Trevarthen, 2005) provides a social situation of development which enables mother and baby to construct a particularly co-regulated and intense relationship which nurtures dyadic expansion (Tronick, 2005) and which is noticeably unlike relationships experienced with less familiar others. Legerstee, Markova and Fisher (2007) have shown that highly attuned dyadic relationships are associated with the early development of triadic relations, suggesting that shared attention is jointly constructed in interaction, not the product of the maturation of an innate cognitive process. Reddy (2008) has shown that infants as young as 4 months old engage in triadic relationships, not of the ‘person-object-person’ type which is normally associated with these (Hobson, 2002) but of a ‘person-person-person’ type, as the baby interacts with two other people and transfers attention between them, e.g. turning, with a smile, from one to the other or actively bidding for attention. Fivaz-Depeursinge and Corboz-Warnery (1999: 112 in Reddy, 2008: 111) noted that ‘it is mostly at the height of pleasure, frustration or uncertainty … that triangular bids are likely to emerge’, an observation echoed in Carpendale and Lewis’s (2006: 105)
reminder that ‘it is important to remember that joint attention always occurs within affectively charged interpersonal relationships’. Emotionally charged ‘second-person’ engagement with other people (Zeedyk, 2006; Reddy, 2008) provides rich opportunities for infants to experience variations in the kinds of attention experienced with different, more or less familiar, partners and thus to begin to separate attention out as a property that can be noticed and explored. This sensitivity to variations in the kinds of ‘second person’ connection experienced in different interactions does not require the ability to recognise the individual subjectivity of others, let alone the application of a theory of other minds. It is felt and experienced through bodily mimesis (Zlatev, 2007) rather than thought about, but it seems to play a crucial role in helping babies to notice what other people notice and to become increasingly aware of what this can reveal about people’s ‘inclinations and needs, … interests and impulses, and … affect and emotions’ (Vygotsky, 1987: 282).

Babies like the feeling of being ‘liked’ (Parker-Rees, 2007) and will respond enthusiastically to the heightened contingency which marks attentive interaction as both ‘meant especially for me’ and mutually enjoyable. This marking of affectionate or attentive interaction is particularly evident (and well researched) in the distinctiveness of infant-directed speech but it is much more widely distributed across all modalities of the dynamics of interaction, including the timing and energy of movements and the reciprocity of conversational ‘turns’ (Trevarthen, 2005). Because a baby’s delight is rewarding for an attentive adult, intimate interactions can develop into escalating spirals of arousal, lifting both baby and adult to a level of exuberant playfulness which serves as a reward for (and a reaffirmation of) close attunement.

Exuberant playfulness is a feature of early development in many animals and even in lambs, goats and puppies it has elements of social adaptation as well as physical exploration of what a body can do. Physical frolicking and gambolling helps with the construction of a ‘virtual body’ in the cerebellum, a model of possible movements and movement combinations which greatly reduces the need for ‘real time’ processing when a particular movement is required (Blakeslee and Blakeslee, 2007) but many of the actions explored in this sort of exuberant play are particularly associated with interactive behaviours, chasing and evading, fighting and mating. I will argue that what is distinctive about the ‘social gambolling’ seen in exuberant playfulness between human babies and (most often) their mothers is that what is being explored and ‘mapped’ is not so much the physical-social world of forms of body contact as an affect-social world of increasingly meaning-laden forms of interaction. While physical play contributes to the development of a cerebellar model of possible movements, affect play sets in motion the development of a ‘virtual social world’ which will come to require the processing power of the whole cerebral cortex. While the cerebellar body model allows us to predict, plan and execute complex body movements by drawing on our past
experiences of moving in a wide variety of contexts and conditions, the cortical social model will eventually develop into a form of ‘super-ego’; an internalised set of patterns, rules and conventions which allows us to plan and execute the social processes required for survival in a civilised society. Vygotsky (1987) observed a dynamic interaction between the spontaneous concepts which are rooted in personal experience, giving ‘body and vitality’ to our understanding, and scientific concepts which emerge from the progressive conventionalising of shared knowledge and which ‘supply structures for the upward development of the child’s spontaneous concepts toward consciousness and deliberate use.’ At all stages of development playfulness is a valuable strategy for generating connections between the ‘thick’ familiarity of ‘in here’ and the intriguing, difficult and unfamiliar ideas which can be found ‘out there’. Playfulness is an active, creative and demanding process of ‘wiggling’ novel, unfamiliar ideas and experiences until they ‘fall into place’ in the structure of what is already familiar. Playfulness involves actively making things make sense and, particularly in its early stages, this is most easily achieved within the supportive social context of familiar dyads. Throughout life, however, learning is always grounded in the ‘affective and volitional tendency’ (Vygotsky, 1987: 282):

‘the dynamic process of establishing and maintaining the ZPD is successful only when emotionally laden reciprocal relations between the learner and the instructor allow for participants’ comfort and trust, which are manifested in constant negotiation of the subject of inquiry and the way it is presented and acquired’ (Levykh, 2008: 97)

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Attachment, holding-on and letting-go, the distributed nature of individual minds amidst playfulness are some of the main features observed in a study of young children’s playful communication in three early childhood centre settings in New Zealand-Aotearoa (Alcock, 2006). The data, presented as 24 narrative-like “events”, formed part of an interpretive, qualitative study of young children’s playful communication. The ethnographic-inspired research methods included the researcher as participant observer. Cultural-historical-activity-theory (CHAT) framed the methodology and mediated activity was the unit of analysis (Engeström, 1987, 1999; Vygotsky, 1986, 1978; Wertsch, 1991).

This paper examines patterns in the relationship between a teacher and pre-verbal children. Analyses draw on attachment theory (Bowlby, 1971; Fonagy, Gergely and Target, 2007; Winnicott, 1971). CHAT illuminated the tensions, contradictions, patterns and other processes that are inherent in communicative activity. The processes of holding-on and letting-go illuminate the interconnectedness of all phenomena and the dynamic-process nature of activity and attachment in communication.

An event is used to concretely and theoretically explore the roles, rules and relationships of a teacher and very young children being playful together. The teacher, Mo, in this event is Em’s mother as well as being on the staff in this full-day mixed-age child-care centre.

Event: Verbal teacher: Pre-verbal toddlers
Toddling and falling: trusting and falling
Kate (15m) comes toddling inside from outside; she hesitates at the door boundary between in and outside before toddling, waddling, straight towards Em (14m) who's sprawled out lying on carpeted floor surrounded and seemingly connected by four pillows having intentionally let her body fall. As she toddles Kate half laughs, cackling joyfully; her sounds match her enthusiasm. Mo stands between the two children, though to one side, openly watching them both, she welcomes and further encourages Kate inside, by bending low and smiling at her. Several older children are playing near Kate and Em.

Mo: to Em who's playing with feelings of falling by letting her body fall forward, hands in front, onto the carpeted floor, "Ohhh!, oh up up again, up again, here she comes again."

Em falls away from Kate, as though Kate has pushed her [Kate hasn't]. Em makes squealing sounds of fun while falling.

Mo: "Go get Kate, Em."
Kate then imitates the falling actions, to one side of Em, falling without being pushed. Em simultaneously squeals happily.
Mo: "Oh, she's gone crash, Kate's gone crash, crash."
Kate lies on the floor, bottom up. Em’s still laughing, squealing excitedly.
Max (3 years), comes over, says something to Kate, gently puts his head on the ground near Kate’s head, takes a stick from Kate’s hand then gets up and wanders off.
Em, watching, lies down, imitating Kate, placing her head near Kate’s head.
Mo: "Go, go, go, Kate, go." (Kate watches Em)
Kate rolls over onto her back, relaxing happily.
Em watches Kate and also tries to roll over, ending up lying on her side, on carpeted floor.
Mo: "Oh are you going to have a lie down?"
Mo comes over and kneels beside them.
Mo: "Okay night night."
"You want a pillow?"
Mo places a pillow beside Em who puts her head on it, side on, for a few seconds. Em sits up and Kate puts her head and half her body on the same pillow.
Mo: "Kate’s got your pillow."
Em puts her head on another pillow. Kate, watching, moves her head and body to another pillow.
Mo: "Oh, Kate’s got a red pillow.
Both children lie, cheeks on pillows, a metre apart from each other, bottoms in the air, half on sides, watching each other, having fun, pretend sleeping.
Em watches as Kate moves to yet another pillow.
Mo: "Now Kate’s got the blue pillow."
Mo claps her hands together as she chants to Kate:
"Go, go, go.go."
Kate half stands and lets her body fall forward purposefully, onto the carpet.
She laughs, then rolls onto her back, (repeating actions from the start of this scenario).

Analysis and Discussion
Bodies in action: Imitating, repeating and anticipating falling
The toddler’s body movements were directed towards purposeful action. They had fun playfully falling, letting their bodies go, flopping and feeling in whole-body sensori-motor style, seemingly connected to each other, the mat, the pillows, the world around them. Mo also participated in the relationship, using words, gaze and actions to mediate the toddlers’ active thinking-feeling
awareness of each other in relationship. She intersubjectively mediated their developing intersubjectivity and subjectivity. The toddlers experienced bodies falling as fun, appreciating the whole-body sensations of falling, lying down, and rolling over. They both laughed after each fall, seemingly at the playful, gravitational sensation of letting the body go and falling. In this almost joke-like way they played with their own body's actions and enjoyed watching themselves and each other fall. They initiated and took turns to fall, sharing the anticipation while simultaneously seeming to experiment with their bodies as objects. The actions of their bodies, with voices gestures and sometimes awkward and immature toddler movements, expressed and seemed to represent ideas and feelings. Em had initiated the event by free-falling onto the pillow-surrounded carpet and, like a choreographed natural conclusion to this first sequence, Kate completed the free-falling phase of what became a larger play.

The teacher also behaved repetitively and imitatively, as if also in toddler role, though instead of letting her physical body fall she used verbs as symbols to provide a commentary based on actions such as “go, go, go…” In this symbolic way her words elaborated and enveloped their actions (Vygotsky, 1934).

Event continues:

Em, watching Kate lying on her back on the carpet, gets up, toddles over to the nearby music area, picks up a string of small bells, toddles back and gives them to Kate. Kate, now sitting, takes the bells and proceeds to first shake, then finger and explore them. Em toddles off towards the outside doors where she meets Mo.

Mo: "What's happened to Kate, Em? Where's Kate?"

Em turns and looks towards Kate who's sitting on the floor absorbed in the bells.

Mo: "There she is, She's got the bells."

Kate, hearing this, looks up towards them.

Em turns and toddles back towards Kate.

Kate gets half up, crawls a few metres, then, standing, she begins toddling, arms outstretched, towards Em who now stands waiting, watching Kate approaching. Kate puts her outstretched arms around Em, hugging her. Both squeal happily, playfully.

Mo: "Ooh that's nice, are you going to have a kiss and a cuddle?" [commenting not questioning]

Em reciprocates by hugging Kate and both unsteady toddlers fall down softly, Em first.

Em makes a gently protesting cry.

Kate pats Em’s head soothingly.

Em gets up and toddles away while Kate lies, relaxed, on her back, on the floor (She seems to enjoy this position).
Analysis and discussion

Roles: Mediating subjects securely developing intersubjectivity

Mo played a pivotal role, connecting Em and Kate intersubjectively with each other, with herself, and with the wider environment. She did this by playfully using objects in the environment, words and actions. As she explained "... to jolly things along, we can use humour in lots of different situations, like to cheer children up and to jolly them along" (Interview, 14-11-2000). Together they became an activity system.

Em and Kate used their bodies playfully as they joked with each other communicating amusing ideas about sleeping, gift giving and receiving, showing affection and the thrill of falling. Mo continually reinforced their developing social and intersubjective awareness, by reminding them of each other. She mediated their developing feelings of empathy by overtly affirming the toddlers’ cuddling, kissing and patting actions.

Both Em and Kate used gestures, gaze and whole body movements to actively communicate their playful thoughts and feelings.

The toddlers’ purposeful playfulness included: their alternating imitation of each other, repetition, turn-taking, squealing joy, and the shared significance of objects, like cushions, that also signified lying down and sleep. Their active bodily communication contrasted with the teacher's use of words as well as actions, to calmly mediate and interpret the toddlers’ pre-verbal gestures and body signals. Mo’s presence as well as her actions contributed to creating the emotional, physical, cognitive security that further mediated the toddlers’ playfully intersubjective communication.

A socio-cultural interpretation of children's playfulness emphasises the social context of the playful activity thereby illuminating the connections between and across the subjects (teacher’s and children’s). Participant observation further illuminates the patterns in the activity. Thus the observed patterns in this event seemed to centre around the teacher mediating both intersubjective connectedness and individual children’s developing subjective separateness. This pattern resonates with the holding on and letting go, coming and going, being lost and feeling found and feeling safe of attachment theory. Significantly perhaps, teacher Mo was both an observing teacher and an involved parent.

The researcher’s observation of patterns between and across individual subjects being playful together, as in this event, resonates with Bateson’s (1972) reference to “the pattern that connects.” In this event mediated playfulness connected the players and the mediation emerged on many levels.
The objective of this study is to integrate Activity Theory (AT) and its elements in the construction of a theoretical-methodological approach to the development and analysis of an Internet based course for university professors: “The Internet in Higher Education: resources and applications.” Based on the conceptual model proposed by AT (MWANZA & ENGESTRÖM, 2005; MWANZA, 2001), the development of the elements and dynamic of the course were guided by the identification of the basic components of the activity: subjects, university professor in the field of healthcare; community, the integration between students (university professors) and the tutors/instructors and the object of the activity, the content, resources and activities provided in the course, related to the use of information and communication technologies (ICT)s in the teaching of sciences and healthcare. The identification of these components and of their mutual influence contributes to the planning of the course dynamic, to the degree to which it sought: (1) to consider the profile and needs of the target public in the development of the informational resources and the activities. Therefore, considering the short time for conducting the course, the probable lack of familiarity with ITCs and the need for the professors to visualize an immediate applicability of the knowledge acquired for their teaching practices, short and current conceptual texts were offered, which had been developed specifically for the course, and examples of applications of use of the Internet for teaching sciences and healthcare were indicated. Another objective of the activities was the development of a product applicable to the teaching context of each participant; (2) to establish an open and informal dynamic, not calling for a formal tutorial, but for the instructors to make the activities more dynamic, preferably through collective spaces, such as a discussion forum; (3) emphasize the understanding of the object as something constructed collectively and which, therefore, is transformed with the experiences and contributions of the community involved. Thus, the dynamic of the course is based on activities that emphasize cooperation, exploring the experiences of each professor in the collective construction of knowledge. The analysis of the course was based on the implementation of a pilot experience with 37 university professors from the field of healthcare at different public universities in Brazil. The results obtained allow understanding the dynamic and the relationship between the basic components of the activity - subjects, community and object – and their mediations, in three fundamental relationships (1)
From the perspective of the relationships “subject–tools–object” it was found that since the work tools require a certain time and effort to be understood, they wind up assuming the role of the object of learning instead of serving as tools for manipulation and use of the object (content and activities resources). The communication tools were planned to give potential to relations of exchange among the subjects, characterizing a collective (re)construction of the object. Nevertheless, the participants related to each other in a distinctive manner, configuring different profiles according to their involvement in the activities during the course as either participators, observers or visitors. The participators (n=6) made greater use of the tools and exchanged more information. For the observers (n = 18), most of the participants, the object was explored in a more individualized manner. The visitors (n=13) did not establish any tie with the course, but avoided it.

From the perspective of the relationship subject–rules–community, an attempt was made to analyze how the professors established relationships to form a learning community. Although the model and the structure of the course called for a series of orientations and procedures for the development of the learning dynamic, they were only initial and foresaw alterations, as well as the rise of new rules specific to the context of the educational activity. To do so, their definition included the participation and involvement of the students/professors. It was found that the appropriation of the learning process, in the sense of being able to negotiate and transform not only the object of learning and the course dynamic, but to conduct the activities, and integrate the work and communication tools offered, only partially occurred, with the contribution of only the “participative” subjects. This posture is very common in educational contexts, when students do not feel they are part of an activity in construction, but as spectators of an already defined process.

From the perspective of the community relation – organization of work –object, the analysis indicated that the dynamic of the educational activity generally took place without a cooperative relationship among the participants, and there was no exchange of roles among students and between students and instructors based on their knowledge and experience, with a more observational posture prevailing. Thus, an exchange of experience and knowledge was found, but not a joint work dynamic where the participants, based on the establishment of goals and common accords, could explore the object in a more integrated manner. It was found that the exploitation of the object was more individualized than negotiated.

The principal conclusions of this study indicate the challenge involved in developing flexible and integrating proposals that reconcile these initiatives of teacher education in the educational field with the academic culture and the real possibilities for dedication of this clientele: (1) to learn to use
new technologies and; (2) to share objectives and goals, allowing the establishment of an identity in
the construction of a community of learning of university professors and (3) to learn cooperatively,
with the integration of the different experiences and knowledge, giving potential to the process of
social construction of knowledge.

In keeping with other work aimed at the study of virtual learning environments (JONASSEN, 1999;
MWANZA, 2001; MWANZA & ENGESTRÖM, 2005), in this study, Activity Theory was
configured as a relevant theoretical-methodological approach to the development and analysis of the
course for university professors, given that: the computer is a tool for mediation among students
and the learning process; the constructive environments in general are guided by activities relevant
to the subject of the educational process; to contribute pedagogically with the learning process, the
virtual environment needs to be developed based on the context of production and use.

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A sociocultural intervention for adult-acquired neurogenic cognitive-communication disorders: A collaborative referencing treatment task

Julie Hengst - Melissa Duff

To examine the communicative practices of individuals with aphasia and the clinical observation that such individuals often communicate better than they speak (i.e., better than they use language), Hengst (2001, 2003) drew on sociocultural theories of discourse, learning and activity (e.g., Chaiklin & Lave, 1993; Cole, 1996; Wertsch, 1991) to re-design Clark's (1992) referential barrier task so that it would systematically incorporate key sociocultural tenets. Traditionally barrier tasks involve two people sitting across from one another, with their view of each other completely obscured; each person is assigned a role (director or matcher), with the director providing verbal instructions to the matcher on how to, for example, match a set of pictures to specific locations on a board. Research on barrier task protocols has documented change over repeated trials in the way speakers adjust their utterances in response to the listeners' knowledge and social roles and in how speakers and listeners collaborate on the development and use of specific references (see Clark, 1992; Yule, 1997). Studies have consistently found that pairs' referencing expressions for specific cards will simplify and shorten across repeated trials with the same cards. In our redesign of Clark's protocol, we loosened the researcher-imposed rules (e.g., complete the task as quickly as possible) in order to increase opportunities for social interaction and collaboration between the partners. Specifically our redesigned task was more game-like and more linked to the life goals of participants (individuals with aphasia and their familiar communicative partners) as they negotiated game play. In the process of analyzing data from that study (e.g., Hengst, 2003, 2006) and extending the design to individuals with amnesia and their partners (e.g., Duff, Hengst, Tranel, & Cohen, 2006, 2007, 2008, 2009), we were struck by evidence of successful learning and use of everyday communicative practices (e.g., narratives, verbal play, multiple voices in reported speech) displayed by the pairs despite their ongoing management of moderate to severe neurogenic cognitive-communication disorders. Indeed, Duff et al. (2006) focuses precisely on the striking, unexpected learning displayed by individuals with amnesia in this task. Based on this line of research, we concluded that the sociocultural barrier task protocol offered a promising model for clinical intervention.

As an initial step towards translating the successful learning found in the research protocol into a clinical intervention, we undertook a pilot treatment study using our collaborative barrier task (see Hengst, Duff, & Prior, 2008). A critical goal was to determine if a clinician could assume the
collaborative partner role that was filled in the research design by the clients’ familiar communication partners. Designed for a patient with amnesia and mild aphasia, the pilot involved using more referencing targets (chosen to pursue specific clinical goals) and extended the protocol from 4 to 10 sessions. On all measures the pilot was a success—the client–clinician pair completed all trials, accurately placed target cards (98.9% accuracy overall), and developed specific labels for all 30 targets. A fidelity analysis documented that the clinician successfully adopted a collaborative partner role during the trials (Bay, Hengst, & Duff, 2008). The barrier task provided repeated opportunities within a treatment protocol for the client-clinician pair to engage meaningfully and successfully with these 30 treatment targets as they completed the task trials. An analysis (Hengst, Duff & Dettmer, 2010) of the pair’s conversational repetition of referencing expressions for the target cards showed that the pair routinely repeated their own and each other’s referencing expressions throughout the protocol, and that they leveraged chains of conversational repetition (within, between, and across trials) into succinct card labels that they used in subsequent trials. Moreover, this repetition was achieved without any sustained clinician-directed or guided repetition of isolated treatment targets.

On the basis of this successful pilot study, we have now begun a larger study of this sociocultural approach to clinical intervention to improve communication of individuals with aphasia and/or amnesia. Grounded in a substantial line of research and informed by sociocultural and neuroscience theories that suggest new approaches to clinical intervention, this clinical intervention rests on a sociocultural notion of repeated engagement (Hengst, Duff & Dettmer, 2010) as a basis for learning. It combines repeated collaborative referencing tasks (with individualized picture cards designed to address clinical goals) and a protocol where clinicians take the role of communication partners (that is, act collaboratively within the frame of on-going activities to optimize communication as opposed to establishing marked clinical frames and directing client production). The research is designed to develop a series of case studies for clients with 4 different neurogenic disorder profiles (aphasia, amnesia, right hemisphere disorder, and frontal lobe syndrome).

Treatment is provided individually, with each participant following the same 17-session program (2 initial assessment sessions, 10 treatment sessions with one clinician-partner and 5 treatment sessions with a second clinician-partner). All clinical sessions are videotaped to support close discourse analysis of the sessions. Analysis of video data will include: a) tracking measures of treatment fidelity; b) measuring the clinician-participant pair’s performance on each barrier task trial (e.g., correct card placement, measures of collaborative effort, evolving labels for target cards); c) close analyses of interactional discourse (e.g., patterns of conversational repetition). The research is designed to address the following questions: Can this 15-session treatment protocol be
successfully implemented with diverse clients and multiple clinicians? Do client-clinician pairs who show improvement in collaborative referencing across the first 10 sessions display evidence of carry-over of that improvement in the last 5 sessions with a new clinician? What kinds of interactional discourse characterize these treatment sessions? Are clients with different communication disorder profiles associated with different patterns of task performance (e.g., learning) and/or social interaction? Institutional approvals have been obtained and data collection on the series of case studies for this larger study is set to begin in October 2010.

Our paper will focus first on the process of translating our research into a clinical protocol. Specifically, we will describe the history and design of this clinical intervention and review the research and theory that undergird it. We will then explore the value of this approach by presenting results from both pilot study and multiple cases studies from the larger research project. Finally, we will conclude by discussing the future potential for this clinical approach to improving communicative practices of adults with acquired neurogenic communication disorders.
509. Developing Teachers’ Intent to Teach as Cultural Brokers

Honorine Nocon

Background and Significance

The US public school student population will continue to diversify well into the 21st century. According to Planty, Hussar, Snyder, Provasnik, and others (2008), in 2006, 43% of US public school students were people of color, and 20% spoke a native language other than English. At the same time, 82% of public school teachers are white, middle class, females, whose native language is English (National Center for Educational Information, 2005). The gap in lived experience between teachers and their students, particularly in urban schools in which low-income students of color are concentrated, contributes to persistent gaps or differences in the educational achievement of White, middle-class, English-speaking students and those from other ethno-linguistic and socio-economic backgrounds (Zion, Blanchett, & Sobel, In review). Preparing teachers to teach urban students from diverse backgrounds, when they share few background experiences with those students is one of the most compelling challenges faced by teacher educators (Futrell, Gomez, & Bedden, 2003; Hollins, & Guzman, 2005; Sobel, & Taylor, 2006).

In order to address this challenge, faculty members from our university have redesigned our Urban Community Teacher Education program to prepare teachers who understand the role of culture and language in learning, acknowledge the effects of social and economic power and privilege in schooling, and seek knowledge of the social and cultural experiences of their public school students, their families, and their communities. Our new program challenges teacher candidates develop the skills and dispositions of cultural brokers, guiding their students from diverse backgrounds to make sense of academic content and academic culture, which in the US has traditionally been consistent with the dominant culture of White, middle-class, English-speaking Americans. To become a cultural broker, one must understand well the cultures in contact (Gentemann, & Whitehead, 1983; Martinez-Cosio, & Iannacone, 2007; Rueda, & Genzuk, 2007). In order to begin to develop understanding of their future students’ cultures, teachers graduating from our program must demonstrate that intent. The goal of this study is to track development of the intent to teach as cultural broker over time, based on nine indicators, and to identify which elements in our program are most effective in mediating that development.

Research Study Design

This longitudinal study of the development of teacher candidates’ intent to teach as cultural brokers, tracks candidates’ development over the year-long, five-course foundations sequence and three pre-
service internships. Course products from each course and internship are archived in an electronic database by a numeric code, permitting analysis of the cohort’s and individuals’ growth over time. Products include digital stories, case studies of children from candidates’ internship schools, instructional unit materials and plans, assessments designed, implemented and analyzed, and a Teacher Manifesto developed iteratively over the year of teacher training.

Content analysis of the products is based on nine a priori categories drawn from four core program concepts and the five Center for Research on Education, Diversity, and Excellence, CREDE, standards (Dalton, 2008), which together constitute the construct—intent to teach as cultural broker:

**CONTENT & PEDAGOGICAL EXPERTISE:**
Knowledge and application of course content, theory, and research in support of the success of diverse learners.

**EQUITY & SOCIAL JUSTICE**
Evidence of student understanding of culture and social justice in the context of education as well as culturally affirming and culturally responsive materials and approaches.

**COLLABORATION:**
Evidence of student understanding of collaboration in education at all levels in order to facilitate the success of all students.

**INQUIRY**
Critical reflection on teaching and learning, including interrogation of practices, principles, research, and theory.

**TEACHERS AND STUDENTS WORKING TOGETHER**
Use of instructional group activities in which students and teacher work together to create a product or idea.

**DEVELOPING LANGUAGE AND LITERACY SKILLS ACROSS ALL CURRICULUM**
Application of literacy strategies and methods to develop students’ language competence in all subject areas.

**CONNECTING LESSONS TO STUDENTS’ LIVES**
Contextualization of teaching and curriculum in students' existing experiences in home, community, and school.

**ENGAGING STUDENTS WITH CHALLENGING LESSONS**
Maintaining challenging standards for student performance; designing activities to advance understanding to more complex levels.

**EMPHASIZING DIALOGUE OVER LECTURES**
Instructing through teacher-student dialogue, especially academic, goal-directed, small-group conversations (known as instructional conversations), rather than lecture.

Candidates’ development in these nine categories is evaluated using following rubric, which is based on Cole’s (1996) analytical framework for analyzing university students’ developing understanding of core concepts:

No Evidence
Emerging (NAMED) Student is able to state the concept or standard and/or identify its use in different contexts.
Developing (USED) Student is able to use the concept or standard in explaining or defending an argument or practice.
Proficient(QUESTIONED/EVALUATED) Student is able critique the concept or standard’s explanatory power and suggest refinements.

In addition to coding the course and internship product data for the a priori categories above, we are also coding for emergent themes using the constant comparative method (Strauss & Corbin, 1998).

Preliminary Findings
At time of this proposal, 75 teacher candidates in the first cohort have just entered Course 3 and their initial internships (they will finish the program in May 2011). Based on initial analysis of materials from Course 1, which focuses on US culture and issues of power, privilege and equity, and Course 2, which focuses on building a responsive and inclusive classroom environment, 85% of teacher candidates demonstrate emerging understanding of equity and social justice, content and pedagogical expertise, language and literacy across the curriculum, and emphasizing dialogue. Approximately 20% of students demonstrate developing understanding of collaboration, teachers and students working together, and connecting to students’ lives. We have found little evidence, as we would have expected, that teacher candidates have appropriated the concepts of engaging their students with challenging lessons or inquiry.

Course elements that appear to have been effective tools in mediating these early developmental trends are: participating in an ethnographic community walks and producing digital stories linking personal background and analysis of the ethnography, incorporation of language and content objectives in professors’ instruction, and analysis of actual anonymous secondary student evaluations of their teacher and the teacher’s responses. Very preliminary data from Course 3 and the first internship indicate that candidates’ application of course content to school and classroom practice is mediating attention to contradictions, critical questioning about program content and school practices, and development of a reflective, meta-level stance from which teaching strategies
and best practices are being interrogated. The level of critical reflection we are seeing far exceeds what we saw in candidates who were trained in our old program, for whom an unfortunately common refrain was “I don’t want theory; give me strategies.” This suggests to us that among our first cohort of teacher candidates the intent to teach as cultural brokers is emerging.

Results from analysis of the first cohort’s data, as well as preliminary results from the second cohort’s (starting in October 2010) will be presented using timelines and a continuum of intent to teach as cultural broker to link trends in teacher candidate development to both the elements of the construct and program elements that have been most, and least, effective in mediating that development.

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In this paper we present the results about relations of dimensions of attachment with mother, father and friend and dimensions of self-concept in adolescence. The main idea of Vigotsky's theory (Vigotsky, 1956) considers social genesis of higher mental functions. Higher mental functions are considered to develop in social interaction, and to appear first as a social relation and to be internalized as a mental function. In that context development of self-concept can be viewed as internalization of relations with important others. Social interactions in early childhood are also base for development of attachment, one important emotional bond between newborn and she's/he's caregivers. So attachment can be considered as one quality of those early social relations. Through social interaction with primary caregiver, usually mother, child develops attachment, a bond that is thought to be a most important base for development of all later social relations (Ainsworth, 1991). Cultural researches show that in most cultures child develops attachment not only with primary caregiver, but with all persons whom are actively included in her/his social network (father, siblings, grandparents, caregivers) (van Ijzendoorn & Sagi, 2008). They also show that attachment with different caregivers have implications in development of various psycho-social functions (Thompson, 2008). From perspective of socio-cultural theory, social interactions with different persons will have a different implications for development of various mental functions.

Following this sociocultural approach to human development, the research aimed to investigate relations between attachment with three significant others (mother, father and friend) and different dimensions of self-concept and self-esteem in adolescence.

The research was conducted with the sample of 828 adolescence (age 13 and 17). Self-concept and self-esteem were measured with Self-perception profile for Adolescents (S. Harter, 1998) which provide information on 8 dimensions of self-concept (including self-esteem as well). For measuring attachment relationship the Experiences in Close Relationships Scale was used (Brennan, Clark and Shaver, 1998); parallel versions for mother, father and friend which measure dimensions of anxiety and avoidance in relationship with each significant other.

Based on the collected data several structural equation (SE) models were developed, for four subsamples, two age and two sex groups of adolescents. Results are the following: 1. The same structure of self-concept was established for the whole sample. We found the same relations between dimensions of self-concept for adolescents of both
gender and age groups. So it could be said that these 8 dimensions of self-concept are organized in the same way in adolescents self-concept independently of age and gender. 2. Analysis show that the attachment can be described based on two separate dimensions of avoidance and anxiety since there is small intercorrelations within attachment relationship with one person. Also, dimension of anxiety from attachment with one person is significantly correlated with the same dimension in other two attachment relationships. So, when a person is anxious in one attachment relationships it is more likely that it be anxious in other attachment relationships too. On the other hand, dimension of avoidance is more relationship specific. So if the adolescent is avoiding in attachment relation with one person, it those not imply she/he will be avoiding in attachment relationships with other people. 3. Relationships between dimensions of self-concept and self-esteem differ in four subsamples. That suggest that self-esteem of adolescents of different ages and gender are not based on the same dimensions of self-concept. Although the structure of self-concept is the same, their self-esteem are based on different aspects of the self. 4. We found the difference in relations between dimensions of attachment with mother, father and friend and dimensions of self-concept, depending on age and sex of adolescents. This data are concordant with the empirical findings that development of different aspects of the self depend on the social interactions with different persons (Thompson, 2008). It is also concordant with the idea that different social relations are internalized as a different aspects of the self as a higher mental function. Results will be discussed in the light of importance of social interactions with significant others for development of self-concept and self-esteem as higher mental functions in adolescence. This research suggest that attachment relationships with different persons serve as a different but specific social context for development and integration of self-concept in adolescence.
512. Performing transformation at PAC

Fernanda Coelho Liberali

How can deprived communities be transformed? Is there a possibility of combining research and effective transformation of communities? This paper aims at discussing performance as the means for the transformation of collectivities. In order to discuss this idea, data from a program for school communities’ development in Brazil, Acting as Citizens Program - PAC, will be described and different integrated projects will serve as examples to illustrate the thesis presented.

According to Marx and Engels (1845-46), human beings are distinguished from animals by their possibility to produce their own means of living. They assume an active attitude to the world and try to transform this world according to an imagined object. The object of an activity appears both in its objective existence and as the mental image of the object, as the product to which activity is directed (Leontiev, 1978). Human beings compare the original material to its idealized form, and perceive the intermediate transformations which may turn the mental image of the product into the result to be achieved. Then they can act with this image, creatively and reflexively, modifying it according to the conditions at hand. As stated by Leontiev (1977: cap3) the meeting of need with object is an “extraordinary act”, that fulfills it with content taken from the surrounding world.

According to Vygotsky (1933/2001), this type of production is enabled and enables the development of human freedom, that is, human capacity to imagine and plan their future.

Essentially, human beings develop a special kind of activity that is intrinsically created by actions, enacted by groups or individuals, directed towards the transformation of an object, as a result of an ideal image that was considered as a starting point for answering a collective need. The reflexive character of the activity is realized by conscious actions that connect the goals and motives of activity. Human beings are not passive in the face of reality, they treat it as the object of their activity, as something that should be changed in accordance with their sensuous images (Lektorsky, 1980).

Leontiev (1977) affirmed that human life is a totality - a system of activities replacing one another. Activities are not aimed at a particular end or a behavior, but at the actual transformation of totality. This transformation of the totality of what there is can be seen as a revolutionary activity (Newman & Holzman, 1993/2002). In this type of activity, tools should not be thought of as categorically distinguishable from the result (the product) achieved by their use. While tool-for-result is identified and recognized as usable for a certain end, tool-and-result is seen as a tool which is specifically designed to create what one ultimately wishes to produce (Newman and Holzman, 1993/2002). Thus, the activity with tools-and-results will be revolutionary because it will be defined in and by
the process of the production of its objects. This collectively intentional movement of the object through a network of activities is responsible for generating a Creative Chain (Liberali, 2006). In the Creative Chain, the interplay of “senses producing new meanings” expresses both the subject’s subjectivity and the collective possibility for transformation into a totality. It correlates the idea that “a change in meaning is always a reevaluation or the transposition of some particular word form from one evaluative context to another” (Bakhtin, 1929:105).

In order to illustrate these ideas, this study focus on PAC, an Extramural Program for people’s development, organized by PhDs, Doctoral students, MA students, undergraduates, and participants in general, who see research as a tool-and-result for the transformation of every day problems. As pointed out elsewhere (Liberali, 2006a), this project is mainly supported by an attempt to turn school into a place where different possibilities/options are produced for those kids, teens and adults who have, as their life experience, contexts of violence, abuse and crime (Athayde and MV Bill, 2006). In other words, PAC aims at creating possibilities of performing a world that has not been created yet in order to make it possible for it to become. This leads to the development of citizenship, here understood as desirable citizenship (Kymlicka, 1995 and Gentili and Alencar, 2001), which is context-bound, and seen in opposition to legal citizenship, which takes all humans as equal and bearing the same rights and duties. That view of citizenship is embedded in Brazilian contexts of extremely different realities.

In this program, PAC researchers develop educational intervention projects, focusing on the “development of citizenship as a condition of those who do not simply accept what is provided to them but who also want to produce their own rights and duties interdependently” (Lessa, Liberali & Fidalgo, 2005). This program has developed projects and events, such as:

a) Meetings gathering teachers, students, parents, principals, coordinators and researchers to discuss school needs and dreams;

b) Reading and Writing in Different Areas Project - LEDA
d) Play –Learn Projects – AB
c) Multicultural Education – EM
c) All Stars - Multiple Worlds Project – AS-MM
f) Acting as Citizens Symposium - SIAC

This presentation discusses videotaped performances that took place during PAC’s activities, such as meetings, workshops, classes and events, from 2008 to 2010. The data was analyzed through a verbal-visual dialogic perspective (Bakhtin/ Volochinov, 1929). The results indicate that performance acted as an essential tool-and-result in the production of new meanings for all the
participants of the Program and generated transformation of all the activities directly involved in the Creative Chain proposed by the Program. While performing, participants’ verbal and non verbal choices, in an argumentative discourse, suggest that they are appropriating new concepts both in the way they discuss their practices and in the way they act. Since performances permeate many integrated activity, it is possible to visualize how new ways of thinking and acting are being developed as part of the choices made by the whole community.

These changes seem to stem from the struggle established between subjective senses that are created in the process of active, responsive understanding. In performances staged in these activities, subjects go beyond who they are to develop who they are becoming (Holzman, 2002 and 2009), which allows the creation of Perezhivaniya – or an especially significant emotional and cognitive experience. In the Creative Chain, performances become partnered endeavors in an activity, producing meanings which will be, afterwards, shared with other new partners in new activity. Therefore, new meanings are produced carrying some aspects created in the first activity. Similarly, some of the partners from the second activity, when engaged in a third activity, follow the same path. This Creative Chain presupposes that features of the totality can emerge in the production of new creative outcomes and of its creators. Therefore, performance creates a Zone of People's Development.

References


1. Introduction

Prosody, or tone of voice (please refer to section 3 for details) plays an essential role in oral communication. Existing research has demonstrated the importance of prosody in various contexts of interaction. (Hellermann, 2005, 2008; Wennerstrom 2001; Culter et al, 1997; Szczepak, 2006; Skidmore&Murakami, 2009) In classroom discourse, especially, teachers and students exchange their emotional information and hinted ideas by sending and receiving others’ prosodic features. Hargreaves (1998) stated that teaching is an emotional practice, and that successful teaching involves an emotional understanding of the learner’s position, concluding that the emotions must be seen as central rather than peripheral to the purposes of education. Thus, how a teacher can use prosodic features to draw on a wider range of emotional resources to scaffold students is essential to classroom learning. So far, the majority of research is conducted in L1 language, only a little research has been done within L2 classroom. (Hellermann, 2005,2008; Hewing, 1992.). This research will focus on the prosody used in an English as a Foreign Language class in China. Research findings will add to the literature of prosody and will support the professional development of teachers as well as suggesting ways for teachers to use prosody to improve the practice of classroom discussion and hopefully improve the students’ learning outcomes.

3. Prosody

The definition of the word “prosody” varies within Language and Speech domain. As concluded by Culter et al. (1997: 142), it usually falls between two extremes, one being “the structure that organizes the sound; the other being a synonym for suprasegmental features, such as pitch, tempo, loudness, pause, etc.” I consider prosody as an abstract structure which reveals itself through some suprasegmental properties (pitch, loudness, time, etc.) and only by investigating these properties can we have a better understanding of how prosody functions in people’s communication.

In a conversation, prosody does not only function in helping the speaker to transmit information into the listener, but also assists the listener, who receives and analyzes the prosodic features, to get the speaker’s hinted meanings and even to anticipate the speaker’s following utterances. One the one hand, the speaker often provides prosodic cues which convey a specific type of emotional and hinted information to the listener. For example, Venditti and Swerts (1996) found that speakers start new topics relatively high in their pitch range and finish topics by compressing their range. Moreover, the speech rate is lower initially than finally; On the other hand, the listener usually through reading prosodic cues reconstructs the speaker’s message and inputs the information
(Cutler et al., 1997). For example, Shields et al. (1974) concluded that listeners can predict upcoming stresses from the preceding rhythmic structure.

As stated by Huchby and Wooffitt (1999: 1), speaker and listener do not only attempt to exchange information or convey messages to each other but are mutually orienting to and collaborating in order to achieve, orderly and meaningful communication. Thus it is worthy of investigating how prosody assists speaker and listener to achieve mutual understanding and co-construct meaningful conversations. By analyzing prosodic cues of the participants, we can have a deep view about how prosody functions in a conversation, for example, noting down the prosodic cues in the process of co-constructing turn-taking or marking the end of a topic. In classroom discourse, especially in a spoken EFL class, prosody also plays an essential role during teacher-student interaction. Teachers by reading students’ prosody can identify when students are in need for help and thus provide in time help and encouragement; students encouraged by teachers, will have more confidence in speaking and improve their language development. In this research, I want to investigate the prosodic features of teacher and students talk and find some common features which can signal the mutual understanding achieved in the class.

4. Research Questions

The purposes of the research are

1) To map the prosodic features of teacher-students dialogue in whole-class discussion in an EFL class in China

2) To investigate how prosody of teacher-student dialogue indicates the degree of mutual understanding between teacher and students.

These purposes will be realized by collecting and interpreting the transcript from a corpus of speech data which allows the following specific research questions to be addressed in the light of empirical evidence.

1) To what extent do teachers use prosodic features to scaffold students in classroom talk.
2) Do students show awareness of how to use resources of prosody to build up an extended turn during whole-class discussion?
3) Does the flow of prosody across turns indicate that teachers and students have achieved a shared understanding?

5 Research Design

5.1 Source of data

A Spoken English class in a foreign language school in Shanghai will be set as a case study. The school has a reputation for a high level of English among teachers and students. Therefore, the whole class will be conducted in English.
5.2 Methodology: Conversation Analysis

I am going to adopt conversation analysis as my main methodology. Mondada et al (2004) state that learning and cognition are processes distributed in, and emergent of, talk-in-interaction. I argue that by using Conversation Analysis (CA) to analyze this talk-in-interaction, the social order, learning and cognition processes can be revealed. Conversation Analysis is a method for the analysis of naturally-occurring spoken interaction. It was first started by sociologists Sacks and Schegloff as a sociological ‘naturalistic observational discipline that could deal with the details of social action rigorously, empirically and formally’ (Schegloff & Sacks 1973: 289). This research will adopt CA from a socio-cultural perspective. Socio-cultural CA (Seedhouse, 2005:175) applies data to the notion that learning is rooted in learners’ participation in social practice and continuous adaptation to the unfolding circumstances and activities that constitute talk-in-interaction’ (Mondada et al, 2004: 501). The approach seeks ‘to use CA techniques as methodological tools that are in the service of different socio-cultural theories of learning’ (Markee & Kasper 2004: 495). It provides access to trace how participants analyze and interpret each others’ actions and develop a shared understanding of the progress of the interaction. Moreover, it can ‘make visible’ some features of prosody in transcribed speech.

In this research, I will use unstructured observation taking a non-participant role to eliminate the Hawthorne effect, i.e. the possible effect of the researcher on the behavior of those being studied (Brown and Dowling, 1998, 41). I will set two video cameras in the classroom, one at the front recording the students, and the other one at the back recording the teacher. Together with the video recorders, I will also use a sensitive microphone to assist with the recording. Transcribing codes developed by Maxwell Atkinson & Heritage, (1984) were adopted to note down the prosodic features of recording. Prosodic features such as pitch level, volume, timing, and rhythm were set as criteria for analyzing the transcript. The criteria can help me to answer the research questions which are grounded in the body of empirical evidence formed by the transcribed data. They also allow readers to see and check how the research conclusions of the study have been reached. A pilot study has been made and positive results have been achieved.

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Aims and perspectives

The aim of this paper is to examine the knowledge practices of professionals in a setting where new standards for practice and professional conduct are introduced in the workplace. As practitioners who carry out their services based on expertise in a certain field of knowledge, professionals are expected to perform their work in accordance with their professions’ collective knowledge and values. Their legitimacy and trust rest on the capacity to apply professional judgment in ways that are informed, guided by, and validated against shared knowledge. How collective knowledge and standards should be utilized in everyday work is however not given, but rather dependent on active and explorative engagement. The character of this engagement will in turn have implications for how shared knowledge objects, and the practices associated with them, are constituted in local contexts.

The empirical context is the introduction of new standards and guidelines for student assessment in three secondary schools in Norway. Through their participation in a project led by the local education authorities to promote formative assessment, ‘Assessment for Learning’, teachers in these schools worked collaboratively to make sense of this as a new professional object and to develop and specify these principles to be employed in their daily work. Previous research on standardisation processes in professional contexts has shown how such processes are not straightforward, but rather dependent on extensive explorative and collaborative work (Timmermanns and Berg, 2003). Also, in the context of teachers’ work with standards for formative assessment, Black and Williams (2006) argue that the implementation of formative assessment principles is essentially an exercise of knowledge creation, where teachers themselves have to take the leading role in terms of translating academic knowledge and generic principles into meaningful aspects of pedagogical practice. The details of this work and what it means in terms of knowledge practices is however less described. Drawing on the perspectives of Karin Knorr Cetina (2001) on objectual and epistemic forms of practice, this paper explores the knowledge practices of teacher teams with a special interest in how the teachers engage themselves in exploring, validating and explicating the guidelines and their conceptual assumptions to make them meaningful in their work. ‘Assessment for Learning’ is conceptualized as an object of inquiry with both material (e.g. assessment templates, lists of assessment criteria) and non-material (e.g. ideas about the relationship between assessment practices and student learning) dimensions, and the study focuses on how teachers
negotiate and constitute these shared knowledge objects, and the potential implications for this engagement on subsequent practice.

By doing so, the paper adheres to a socio-cultural perspective which emphasizes the situated character of knowledge development and learning, and the role that symbolic and discursive resources play in mediating thought and action (Säljö 2006; Vygotsky 1978; Wertsch 1991). The task of understanding and employing professional standards is viewed as something professionals achieve in collaborative efforts by way of material-discursive practices at work. At the same time the character of this interaction may affect how shared practice is structured and how opportunities for the exercise of professional agency and discretion within a framework of shared standards are shaped.

Methodology

The data derive from an ethnographic study of teachers’ team work in secondary schools in Norway. The teacher teams are engaged in developing new formative assessment practices through their participation in the ‘Assessment for Learning Project’ (AFL project). It is led by the Local Education Authority (UDE) and reinforced by national policy drives to reform assessment practices in schools.

The AFL project is presented to schools as a research-based initiative, building on the work of Paul Black and William Dylan as well as Norwegian academics. UDE organizes regular seminars for the twelve pilot schools participating in the project, where teams from each school come together for input sessions and knowledge sharing on themes related to assessment for learning. Each project team is tasked with developing and mainstreaming assessment practices in their schools. While they organise this work in different ways, all the schools create some form of collective arena(s), such as different teacher team constellations, staff meetings and electronic platforms, for the development of new assessment practices. UDE has developed some shared resources to support the work with AFL in schools, and university-based researchers also contribute with input sessions, guidance and practical tools.

Three secondary schools were selected from the pilot schools in the AFL project, based on school strategy papers for the development of formative assessment, and interest. Meetings where teacher teams work with assessment for learning are being video recorded over a period of 6-8 months. The video observations are being supplemented with focus group discussions with teachers, interviews with heads of schools, interviews with employees at UDE, and observation of UDE seminars.

The data analysis is performed on two levels. A content-oriented reading of the team processes is carried out to identify what kind of knowledge practices the teachers engage in as they negotiate and constitute Assessment for Learning as a shared knowledge object in their local team contexts.
Particular focus is placed on incidents that involve the critical examination of the different trajectories of practice that are associated with the various ways in which Assessment for Learning can be framed and conceptualised. For this, we use concepts like exploration, negotiation, validation and re-contextualisation as sensitizing means to distinguish between different types of engagement with knowledge. We also perform an interaction analysis of selected extracts from the team discussions, to further examine both the dynamics of critical incidents in which Assessment for Learning becomes a matter of concern and the discursive and material resources that are brought to bear on such discussions. Finally, the paper draws upon interview data from focus group discussions with teachers in order to expand on the ways in which they see view their professional agency in terms of directing the knowledge creation processes involved in developing new assessment practices.

Results
The data analysis is per September 2010 in progress and will be further developed during the fall and subsequent spring term. Preliminary results, however, point to how standards and professional guidelines potentially can serve to both open and close opportunities for explorative engagement with knowledge. Critical inquiries and explorative engagement is dependent upon practitioners who take the inputs given as an object of inquiry and are capable of raising questions and identify opportunities for further defining and developing potential trajectories of practice. It is however also dependent on qualities of the standards and guidelines themselves, in terms of how they embody opportunities for local adjustments and variegated use. The analysis shows how ‘Assessment for learning’ offered opportunities for explorative and critical engagement with different bodies of professional knowledge, at the same time as it sometimes closed down avenues of exploration or inquiry. We also point to differences in engagement between teachers working in different types of team constellations, such as the AfL project groups that primarily direct their attention to the institutional (school) level, and subject specific (e.g. mathematics) or grade specific (e.g. 9th grade) teacher teams who orient their discussions towards a specific subject area or towards application to cross disciplinary teaching in the classroom.

Theoretical and educational significance
The paper contributes to our understanding of knowledge practices in professional work, by exploring ways of relating to professional standards which goes beyond the notions of direct application that often accompany efforts to evidence-base practice. The analysis illustrates that a range of epistemic practices as well as knowledge resources are utilized in the negotiation and exploration of assessment standards. These practices take form in the relationship between Assessment for Learning as a knowledge object, and the agency enacted by teachers, and we argue
that attention to how these knowledge practices materialise themselves at the local level is an
important aspect of understanding changes in practice at the school level, as well as the role of
professional agency when a profession’s knowledge base is being developed by practitioners.
Finally, previous research has shown that teachers’ knowledge practices and learning often are
locally bounded and individualised in character, and that they are short of communal knowledge
resources that are shared across a larger professional community. Teachers’ engagement with
Assessment for Learning therefore provides an interesting case because it is an attempt to
systematically develop shared practices and standards across sites of teacher practice.

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Student engagement in digitally-mediated communications and collaborative work in higher education: Competing spaces, contradictions and cultural practices

Sue Timmis

Introduction

Communication, mediated by digital tools, permeates the everyday lives of most university students. In particular, mobile communications, instant messaging and social networking have become widespread across universities (Smith, Salaway & Borreson Caruso, 2009). Students increasingly operate within a landscape of different practices and a fabric of connectivity within a multiplicity of competing spaces and modes of engagement with digital and other tools (Wenger et al, 2009). Previous studies have shown that undergraduates experience difficulties or ambivalence in working with institutional communication tools such as discussion boards in virtual learning environments (e.g. Timmis & O'Leary, 2004, Conole et al, 2008) and student approaches to learning are acknowledged to be more complex when they are required to learn both face-to-face and in online environments (Ellis et al, 2006).

This paper draws on a study of digitally-mediated communication activities amongst undergraduates who were asked to collaborate on a research project in online special interest groups using a variety of digital tools. It will show how institutional policies, rules and processes were influential in constraining student engagement, conflicted with existing cultural practices, requiring students to operate across institutional and personal boundaries.

Communication and collaborative work as mediated actions

This research draws on cultural-historical theoretical ideas, in particular Activity Theory (Engeström, 1987; Leont'ev, 1978; 1981; Vygotsky, 1978), an understanding of communication as dialogic and reciprocal utterances (Bakhtin, 1986; Wertsch, 1991), and a social and relational understanding of digitally-mediated communication and collaboration (Clark & Brennan, 1991; Dillenbourg, 1999; Dillenbourg & Traum, 1996).

Mediation, a key concept in Vygotskian thinking, is the way in which artefacts, tools and other people participate in and influence our actions. Context is dynamic, and mediational means are part of the multi-threaded contextual fabric that is actively constructed (Daniels, 2001). Subjects have agency and contribute to their own development, but settings impose constraints on their actions. Artefacts and tools carry within them the history of activity and thoughts, which are then transformed and re-appropriated as mediational means (Cole, 1996). Therefore, communicative actions and collaborative work of undergraduate students are mediated by artefacts, tools, agents,
history and culture. Communication and sign-based mediation operate at different levels within the activity system (Engeström, 1999). Activity theory’s dialectical unit of analysis allows us to link analysis of the different levels of an activity and for the contribution of the individual agent within the activity system, acting in concert with other members of the community, to be accounted for in seeking to understand the activity system as a whole.

Institutional practices and contradictions
Contradictions help to reveal and clarify the different goals and objects at play within an activity system. It is also through these contradictions that creativity and problem-solving emerge, allowing new forms or adjustments to emerge (Engeström, 1999). Säljö (2010) suggests that the value of technology in supporting education is through its influence on our culture and our communicative and cognitive activities and helps us to reconfigure what learning is. However, this leads to tensions between institutional practices, understanding of what we mean by learning and the affordances of technological tools (Säljö, 2010). The contradictions that emerged between institutional rules, processes and practices and the practices and expectations of the students involved in the communications and collaborative work on two undergraduate modules of study in the UK will now be discussed.

Online special interest groups
This empirical study explored the different digital communication tools that campus-based undergraduate students use to support communications and collaborative work across formal and informal settings. Two groups of third year undergraduates, studying two optional modules in a Post 1992 university (new universities, formed in 1992) in the UK in 2006 and 2007 were the focus of the study. As well as fortnightly lectures, students on the modules were asked to collaborate on a group research project conducted in online special interest groups (Sigs) and lasting for 8 of the 12 week module. Students were encouraged by their tutors to communicate online, using a variety of digital communication tools, both institutionally provided and personally chosen or purchased, to work on the Sigs.

At critical points during the modules, 16 students collected their personal communications data from different digital tools. Students also participated in extensive student-led, video-recorded group interviews. Communications data from the institutional virtual learning environment (VLE) was collected and tutor interviews were conducted. Data was analysed using a multi-level framework, linking operational, action and activity levels and analysis of the contradictions and boundaries between formal and informal settings and spaces.

The study found that engagement in communications for group projects was very limited.
throughout the 12-week modules, particularly the use of the institutional VLE. Institutional policies were shown to contribute to this lack of engagement. The modular framework implemented uniformly across the university resulted in students joining a module with people they did not know beforehand. Students emphasised the isolation they felt; they did not know many or sometimes any of the people in their Sig. Tutors reported frustrations with not being able to change rules around the structure, timing or length of modules or associated assessment regulations. There was also a general attendance problem so that opportunities for developing relationship with peers were further constrained. Students also felt that during their undergraduate courses, the emphasis had been on individual work, they were not familiar with working collaboratively and had no prior experience of online discussion. Additionally, the task was collaborative but the assessment was individual, therefore the goals of the task were confused, requiring different divisions of labour. This created multiple uncertainties, a lack of common ground and limited control over the evolution of the groups.

Communications using the institutional VLE discussion board also lacked reciprocity, messages were frequently unaddressed or unanswered and many questions were left hanging, unanswered. Email was seen as a formal medium, only used for communications with tutors. In contrast, the students collected a large number of instant messaging conversations (MSN messenger and Skype) that had taken place informally, mainly amongst existing friends. These communications frequently lasted several hours, sometimes throughout the night. Students reported that the computer and the instant messaging tools were ‘always on’ and they maintained conversations whilst doing other work or leisure activities. Discussions about the Sigs were interwoven with other conversations and the synchronous and dialogic character of instant messaging afforded a sense of ‘co-presence’, being together and apart. These longitudinal conversations also helped facilitate mutual support and purpose that was not found in the institutionally–bounded communications, where shared history and intimacy were only infrequently demonstrated and affordances of the tools limited possibilities. Examples of these contrasting communications will be shown to illustrate these points.

**Negotiating Boundaries**

Students had to navigate boundaries within these two modules, both in their own actions, between elements of the module work activity system and between the work system and their social network system. Boundary crossing requires negotiation and re-orchestration (Engeström, 2008), leading to increased potential for constraints on objects, goals and actions.

The practice of switching on the computer (or mobile phone) first thing in the morning and leaving it constantly on provided a mutually-agreed framework which was understood and used by everyone within particular friendship groups. Replies can be expected at any time and people feel
constantly connected. The asynchronous, institutional tools offered much less certainty of a reply. In the VLE in particular, there were no existing practices and routines that the students could fall back on, adding to the uncertainty and lack of trust in the process. This would have required the re-orchestration of existing cultural practices, but this not recognised by either students or tutors.

Encouraging students to use multiple digital tools, including personal tools, appeared at first sight to be an added benefit to the groups, who could choose the tools they wanted to use and work more flexibly, across formal and informal boundaries. However, the more communication tools that were introduced, the more complexities over boundaries increased. These were either part of the social networking system of students’ everyday lives, with community-derived rules, where it was acceptable to mix social and study related conversations. Alternatively they were formal, study-related communications operating within the institutional system, and institutionally-owned communicative spaces, where timing was more constrained, and where they were governed by the rules of the task. The differences in timing and social rules increased the difficulties in moving across these boundaries.

Conclusions

The paper concludes that institutional expectations, rules and practices conflicted with student expectations and existing cultural practices. Navigating the boundaries between personal and institutional uses of such tools involves a reconfiguring of practices that the academic staff and institution appeared unaware of. Student expectations of how tools and practices will operate were also often out of alignment with the tools in use and the institutional policies and processes operating. Engagement in digitally-mediated communications and collaborative work across different settings is contingent on explicitly addressing this alignment, clarifying expectations and re-orchestrating cultural practices. Reconfiguring modular frameworks and institutional policies on learning and assessment to support learners and teachers in their collaborative work needs urgent consideration.
519. From situated practice to the definition of a professional profile

Elena Boldrini - Alberto Cattaneo - Gianni Ghisla

Introduction

Facing the continuous changing of the professional profiles is one of the challenges to be dealt with in the knowledge society. This is also and particularly true in the framework of Vocational Education and Training, which – having a look at the New Swiss VET Law – intends to create “a. a professional training system that allows individuals to develop personally and professionally and to integrate into society, in particular in the employment sector, by making them capable and available to be professionally flexible and to remain in the employment sector; and b. a system of professional training that favours companies’ competitiveness”.

Taking into account the essential role technology plays, and in particular its specificity in the changes of the working and didactical-pedagogical practices, a first declination of this challenge regards the VET teachers, considering both their being professionals themselves, and the outstanding role they cover to assure what foreseen by the cited Law.

This brief preamble is the background to our basic research question: how does the requested and diffused exigence of integrating ICTs in working and training practices impact the teachers’ identity? More precisely: in what extent does the introduction of the ICTs in training practices create or modify the teacher’s competence profile and let new areas of development for the teachers’ professionalism profile emerge?

To answer these questions, we had firstly to wonder what conceptual framework and what methodological path would better have led us to identify the new/renovated competences for different professional profiles and in particular for the teacher’s professional profile.

As previously mentioned, the role of the teacher in the Swiss vocational training system is double-wired to the professional world: it deals with professionals, who beside having a job in a specific working sector, are also teachers in a specific field, representing in this way this closed interdependence evoked in the previous lines. The ICTs component and its innovative power requires to examine the teacher and trainer’s profiles and their updating. It has to be clearly said that we’re not questioning here the basics of such a profile, but the opportunity to consider those related to ICTs integration and management as specific competences that a teacher – with his/her already robust “standard” profile acquired – has to work on. The study presented here focuses specifically on that portion of the teacher’s whole profile which concerns the ICTs issue.

Conceptual and theoretical framework: defining competence, situation, and sphere of action.
Starting from these premises related to the changing teacher’s characteristics, a set of questions...
could be outlined: what is a professional or competence profile? Why using the concept of competence for analyzing the teachers’ practices? How to investigate the professional profile of the teacher? Some conceptual assumptions at this regard are the basis for the definition of our R&D approach in the field of the analysis of the professional sphere of action (Handlungsfeldanalyse in German and analyse du champ d’action in French), linked in particular to the conception of competence and situation as the component with which to build a professional profile. Summarizing as much as possible, we come and define them here following,

Competence is an act of integration of resources in action (Weinert, 2001), and being competent means mobilising each time, in a suitable way, and in a different measure, different resources related to subject matter, methodological, social, personal assets (Erpenbeck & Heyse, 1999), very often also categorized as knowledge, know-how, attitudes (Le Boterf, 1994, 2000).

What precedes implies that a knowledge which is anchored in the working context, is considered to be strongly embedded in the situation (Ajello, 1992, 2002). The situation presents then immediately as another concept at the centre of the theoretical system, since we consider competence as knowledge in situ(ation) and therefore always in relation to a system of activities. Here immediately comes our reference to the model of the Cultural Historical Activity Theory (Engeström, 1987, 1999; Kuutti, 1996; Nardi, 1996): this helps us consider that “contextual whole”, that “environing experienced world” – to use Dewey’s words – which alone is able to build the analysis unit for acting equipped with sense, which is essentially human. In this context we can note the subjective, social and aimed aspect of human activity, within which knowledge is not given, unless it is situated (see also Clancey, 1997; Cole, 1996).

According to Zarifian (1995), a subject able to combine resources directly considering the context where he is acting can also manage problematic and non-routinary situations.

Gathering working situations is necessary for indexing and for classifying in families of similar situations – which have in common goals, actors, and actions – the variability of the working situations. A competence profile is for this reason a limited list of competences. Each one is described on the basis of the specific resources, composing it and allowing to manage a certain typology of situations.

The study

The research was conducted in the framework of SFIVET (Swiss Federal Institute for Vocational Education and Training), a national university institute dealing primarily with the teachers’ training operating in vocational education.

The experience concerned a blended learning course with two first-year classes of the bricklayer’s apprenticeship, and lasted a whole school year. 45 interviews, each of them at least one-hour long,
were conducted longitudinally with the twelve teachers and tutors involved in the project, using the entretien d’explicitation technique (Vermersch, 1997; 2006).

The analysis of the corpus has foreseen the combination of qualitative and quantitative analysis in the perspective of CAQDAS – Computer Assisted Qualitative Data Analysis Softwares: the qualitative analysis was supported by Atlas.ti, and the quantitative by Alceste. In our intention, this doubled approach should have “balanced” the researcher’s ingrained and subjective intervention to which risk the first method could have exposed.

The result was a set of 11 competence areas. It is possible for each competence to have a very accurate and precise description of the knowledge, the know-how and attitudes entailed in it, as they emerged in the interviews. In fact, the identification of the competence itself was done starting from the resources underlining the acted and told practices. Finally, we organised a validation process made through a survey delivered to about 100 teachers also using ICTs, survey which validated the “very important” character of all the underlined dimensions, confirming their significance.

Then, we turned to Activity Theory as a way 1. of looking at the analysis done, in the attempt of simplifying its reading, and still keeping and guaranteeing a systemic approach to the interaction among the resources involved; 2. to move towards an operative transfer of the results. We grouped the single elements of an Activity System in three main areas (respectively concerning the tools, the actors and the organizational issues) and correspondingly the eleven competences. At this point, we’ve to remind the (wished) possibility to transfer this analysis into practice, and in particular into a training path for teachers and trainers. For this reason we identified three core elements on which to work in order to integrate ICTs in VET didactics: 1. four competences were in fact dealing with the technological literacy and the didactics, in terms of instructional design and learning scenario building; 2. three competences were closely related to the teacher’s identity changes and the re-definition of his/her role; 3. the last four concerned the impact ICTs have on the context: in fact, ICTs determine an important innovative factor able to even deeply modify the central aspects of the training and teaching action, starting from the setting.

Finally, in a further attempt to handle with the complexity of the object analyse here, a teachers’ training path, which would consider all these dimensions, will be probably better coherent when based on a project and a communicative approaches, which are on our point of view transversal to all the 11 competences. The projectual nature stands as a condition to act once more in situ, in the professional activity, a “knowledge” tripartition really integrated in the “object-project”, while the communicative dimension – both in the computer-mediated and in the non-computer-mediated forms – confirms its centrality for establishing an authentic educational interaction with the addressees of the training action itself.
Conclusions

In this contribution we have depicted a research pattern for the analysis of the teachers’ professionalism. In particular we focused our attention in the ICT-related competence areas within the whole competence profile of the trainers. Using a multi-method approach we could build an 11-competences professional profile, starting from the analysis of teachers’ real practices. The work done opens by the way at least three paths of reflection and perspectives of widening, which will be discussed in the presentation: on the methodological side, on the theoretical side and on a more operational side.
In Switzerland, the Vocational Education and Training (VET) system foresees three different learning locations: the school, the workplace, and the additional training segment – known as “intercompany courses” – in virtue of which the basic dual-track system is also called “trial system”.

Given these characteristics, two key points rise as very relevant to work on: the need to better articulate the relationship among the three training places and the need to develop those core and transversal competences as crucial to be a professional in the actual society. In other words, by experiencing split opportunities for learning over two main locations (workplace and school) apprentices in the dual-track VET system often perceive a very dysfunctional and “unreal” dichotomization: the school is felt as the “theory”, while the workplace is conceived as the “practice”. That’s why one of the most crucial challenges that school/work based VET programmes have to develop is putting in a functional relationship what is taught, experienced and learnt in the different learning places, thus creating links among contexts and between theory and practice.

In this framework – knowing that in VET the workplace-segment has an influence on learning as a contextually and socio-culturally shaped process (Eteläpelto, 2008), which is in turn conditioned by the apprentice’s personal engagement and the affordances that the workplace offers him/her (Billett, 2001) – the professional situations (Esser, 1999; Heid, 2001) lived at the workplace can be a very useful basis on which to develop professional competences and which allows at the same time to value the active and constructive role of the subject and to keep a complex and integrative approach to learning (see Lave & Wenger, 1991; Resnick, Säljö, Pontecorvo & Burge, 1997).

**Dual-T: technologies for VET and “Erfahrung”**

Dual-T is the umbrella project of the Swiss “Technologies for Vocational Training” Leading House, funded by the Federal Office for Professional Education and Technology.

The whole project defines three main objectives, strongly related to the peculiarities of the VET dual-track system here mentioned. Adopting Design-Based Research (DBR – Collins, 1992; Brown, 1992; DBRC, 2003) as the general methodological approach for developing an in-context research project, the main goal of Dual-T is in fact to design learning activities that: 1) help to bridge the gap between workplace and school and to better articulate the relationship between the learning locations; 2) deal with subject matters in relationship with the work practices, thus promoting both the acquisition of professional competence and the meta-reflection on professional experiences; 3) aim to reinforce the professional identity awareness.
Technologies are here conceived as tools for augmenting interactions and for learning by reflecting on experiences, realizing an “Erfahrraum” (Dillenbourg et al., 2008), a “place” in which to integrate experience and learning. In an “integrated learning” perspective (Dillenbourg & Jermann, 2007), technologies are designed to support learning activities, rather than as stand-alone learning tools or tools for accessing online instructional materials; these activities a) are built around social interactions, which can be designed as involving apprentices on an individual, group, or class level; b) are preferably structured in pedagogical scenarios; c) foresee multiple modes of interaction, both in presence and at distance, and both with and without computers; and d. produce digital artifacts, which can be used and reused in order to structure new learning activities.

Concretely, the “Erfahrraum” concept reifies the integrated learning approach: technologies can be employed i) at the workplace to capture real experiences and ii) in the classroom for exploiting and expanding professional experience, so fostering the connection between contexts. The central hypothesis is then that technologies will improve school effectiveness by connecting workplace experience to classroom reflective activities.

Of course, experience doesn’t produce learning by itself; learning requires reflection on what is experienced. In other words, it is by reflecting on the activities performed at the workplace and at school, that apprentices can become more aware of their activities and competences, better exploit the learning potentiality of the professional situations and thus foster self-regulating learning (Newman, 1994; Zimmermann, 2002) and a grounded professional identity (Schön, 1983; Wenger, 1998). On the other hand, the work training context should take advantage of those crucial situations that could enable links to the scholastic courses. The realisation of these two dynamic movements in the system should assure i) the continuity between theory and practice and ii) the construction of an unique professional identity.

The aim of the paper is to present here studies that used different ways we used to operationalize the “Erfahrraum” in Swiss VET including some some of the results obtained both on learning outcomes and on professional identity awareness and competence development.

1. Using headband cameras at the workplace to support school activities.

In this first study we involved apprentices in car mechanics in Ticino, who were allowed in turn by their supervisors to wear a headband camera while being engaged at the workplace so that they could video record significant situations experienced at the workplace. The material collected was then handed over to the teachers, to be used at school as basis for building contextualized learning activities.

The underlying hypothesis is multi-faceted here: using self-produced material can have an impact on learners’ motivation; capturing workplace experiences can foster the bridging of the gap between
various learning locations; at the same time, it can promote meta-reflection processes, and thus having an impact on professional identity development; finally, not only text-graphic combination, but in particular the use of a video as a starting point pretext to link to other graphical or textual learning material, can have an impact on learning itself.

To further examine this hypothesis, the usage of the video was varied in different classes: one did not use the video material and so served as the control group; two other classes used the materials collected by the apprentices at the workplace in two different treatments: in one of these treatments, the teacher simply used the raw videos recorded by apprentices to show them at the end of the lesson; in the other, the teacher had an active role in enriching the raw video material by structuring it in a hypermedia object. Each time a video was used, a learning test was submitted to all the classes. At the end of the school year, an additional and comprehensive learning test on all the contents treated during the year has been submitted, too.

2. Commercial employees and computer-supported collaborative writing to learn.

In this case, the starting point was the observation made by the teachers about the apprentices’ difficulties in reflecting on their professional experiences and developing a personal professional identity. These difficulties are concretely observable in the so called “Procedural Unit” (PU), a test, where apprentices have to provide 1) a description of a professional procedure they faced at the workplace, 2) the corresponding flowchart and at best 3) some examples being evidence of what experienced. The PU is rated, and becomes part of the assessments that constitute the final exam which provides the Federal VET Certificate.

On the basis of a writing-to-learn perspective (Flower & Hayes, 1980; Hayes, 1996; Galbraith, 1999), as well as in a Computer-Supported Collaborative Learning (CSCL) frame, and guided by the hypothesis that a computer-supported collaborative writing to learn approach can help apprentices to develop their professional identity and the awareness on their professional competences, we designed peer-tutoring and peer-commenting learning scenarios built on based on activities aiming to promote reflection, confrontation, professional competence acquisition, and professional identity development.

All the activities were supported by ELGG, an e-portfolio learning environment, of which we especially exploited the weblog and a wiki tool directly integrated.

Tynjälä, Mason and Lonka (2001), support the idea that writing can be a useful learning instrument some conditions are satisfied; in our VET context, two are particularly interesting, for which writing would be effective 1) when linked to the task of reflecting on one’s own experiences, and 2) when used to solve practical situations (possibly making use of theories). On this basis, we designed activities with various learning tasks depending on the content, e.g.: to describe in details and
analyse a procedure experienced at the workplace, to identify errors in a faulty procedure, to prepare a letter to cancel a contract,…

This was the starting point for encouraging discussion, comparison and collaboration dynamics among the apprentices through CSCL learning scenarios.

With respect to the effects of the treatments in the two studies, first analyses are being conducted at the moment. However, results will be available for the congress.

In both cases, we discuss the effects of such studies on learning by means of the following main measures: 1) the results of the learning tests, 2) the apprentices’ satisfaction – in terms of acceptance of the technological device and perceived usefulness of the scenario themselves, and 3) a pre-post questionnaire investigating aspects like apprentices’ perceived (i) self-efficacy at school and at the workplace (Bandura, 1990), (ii) reflective thinking capacity (Kember et al., 2000), (iii) professional commitment and identification (Heinmann & Rauner, 2008), and (iv) ease-of-use & usefulness (Venkatesh et al., 2000).
The question raised in this paper is how the current political-administrative pressure on outcomes in education may contribute to changing education as a field of knowledge. While educational practitioners are expected to improve students’ learning outcomes, educational researchers are expected to deliver research results with relevance for evidence-based policy and practice. Inspired by the concept of epistemic drift (Elzinga 1997, 2002), and drawing on examples from Norway, we will discuss how current outcomes-based political and administrative reforms influence educational research and practice. ‘Epistemic drift’ is in the present context understood as the potential weakening and erosion of epistemic criteria within research projects and the research community more generally.

While there is a just call for relevance in social and educational research, we also experience that governments and other agencies try to “dictate” research in different, and often complex, ways. In such cases, researchers lose not only their autonomy, but also control of their research questions and research results. External pressure for relevance will also influence the research communities’ evaluation and choice of methodologies and theoretical frameworks. Today, there is both internal and external pressure on educational research to move away from certain theoretical positions and methodologies towards theories and methodologies that seems to be closely related to the call for ‘knowledge that works’, or more evidence-based knowledge (Lillejord 2010). External pressure thus becomes internal pressure – often challenging socio-cultural approaches to educational research.

Using Robert Merton’s (1973) well-known CUDOS-norms (communism, universalism, disinterestedness and organized skepticism) we will analyze various internal and external pressures on the scientific “ethos” of educational research. According to the first norm, scientific knowledge should be regarded as common property. Private actors should not have privileged access to or be able to claim ownership to knowledge and research results. The second norm claims that scientific hypotheses should be subject to impersonal criteria (for example testability). This norm also implies that the researcher’s ethnicity, gender, religion, social class etc. are irrelevant factors when the goal is to assess the validity of a theory. The third norm is that researchers should not be motivated by personal gains. Disinterestedness and impartiality must guide our search for knowledge. The fourth norm, organized skepticism, builds on the first three. According to this norm, we may reach consensus through criticism and self-criticism. The norm of organized skepticism presupposes a skeptical and critical attitude, and entails that validation is be a public and critical process.
Our assumption is that too strong a pressure on relevance and results may undermine scientifically institutionalized values and norms as described by Merton.

With regard to epistemic drift, the ‘challenge of the practitioner’ is also relevant. Questions and problems that emerge in educational practice must be interpreted and translated into research questions. As we know, this is not always straight forward. The practitioner’s insistence on the need for relevant educational knowledge (‘what works’) is understandable, but does not necessarily yield original or interesting research. As a result, so called “practical” educational research is not always based on researchable questions.

Epistemic drift is also closely connected to new forms of ‘academic capitalism’ and the strong tendency towards ‘commodification of knowledge’ (Slaughter and Leslie 1997, Etzkowitz and Webster 2002). When knowledge is increasingly defined as ‘intellectual property’ within the knowledge economy, this creates new and complex relations between researches, academic institutions, and business. This development is clearly at odds with a more traditional understanding of the scientific ‘ethos’, and may open for other forms of epistemic drift.

In our paper, we will discuss the concept of ‘epistemic drift’ in educational research from different perspectives. We will describe and discuss different Norwegian cases involving epistemic drift that are of more general interest to the conference theme.
The sociocultural approach to learning and development acknowledges human activity as culturally mediated. Different cultural groups have different ways of mediation, and any social change ought to be understood through the historical process of social construction of meaning in relation to cultural practices. Thus, one’s own practices is to be understood through its complex social, historical and cultural dimension.

From this perspective, teacher education short programs/projects are extremely challenging. They involve the learning and development process of those who mediate learning and developmental process of others.

As professors of a teacher education undergraduation program, we have faced the problem around the lack of connection between teachers own educational experiences and their professional practices. How to integrate the two dimensions of human development: person’s understanding of own formative experiences and its relation to her current social and cultural practices as a teacher?

The present paper is a product of an ongoing project for elementary education teacher training based on social experiences mediated by literature and autobiography. The project gives excellence to historical and sociocultural contexts through autobiographical writing, reading experiences and creating collective reading projects. It aims at promoting understanding teachers’ own metatheories (Valsiner), beliefs and values grounded within their own social practices (Rogoff) and how they are reorganized in school activities.

Our goal is to promote a reflexive context to create new meanings for teacher education process and for the creation of innovative reading practices. Our research questions are: Is there any relation of teacher’s own schooling experience and teacher education trajectory with his/her social educational practices? How relevant is, for teachers understanding of own practices in order to come up with ideas for changing their practices?

Teaching for a cultural change implies on tool based mediation, historical development and practical activity. Thus, the project is a literature based through circle reading, autobiographical approach (ontogenesis) and collective action by constructing school reading experiences for their students.

Elementary Education is a formative level of elementary competences development for school learning process. On the basis of this process, reading and writing competence will ground all one’s academic life. However, it is important to go beyond the notion of how to read and write. It is important to understand reading and writing within a epistemic perspective, a experience that
mediates understanding of the world, interpersonal relations and human development.

From a cultural point of view, school experiences give meaning to students emerging reading and writing activity. It is a dynamic and complex process which involves social and psychological dimensions. But, in which sense teachers approach reading and writing as a meaning based complex activities? Written language is usually experienced only as a mechanical task and not as a cultural based process of knowing mediated by speaking and reasoning. According to Vygostky it is important to approach reading as complex cultural activity. It enhances language as a powerful tool for thought development and students cultural development, in the sense that it is an activity that potentializes the relation between thought and language. It only depends on how teachers make it happen.

In this sense, we understand that teachers awareness of their own concepts is a relevant component in their teaching practices. Our proposal for this teacher education project was to articulate teachers’ school reading experiences, teacher education experiences and their current educational practices as a teacher. Although this approach has been object of many studies, there are aspects yet important to be taken into account. It concerns the ways teacher education programs integrate formative subjective and objective dimensions in relation to theoretical knowledge construction. It also concerns on how to enable teachers to face their own meaning making process about school reading practices.

Teacher education and his/her own school background become relevant to undersatand own cultural values, beliefs and concepts about the position reading takes within the process of learning and development. This understanding is important in order to engage teachers in cultural change of educational practices, which can start by placing reading as a mediation tool for students development. But how do we best approach meditational ways for teaching and learning?

According to Vygotsky, the process of thought decomposition and its transformation into words is complex due to the fact that thought does not necessarily correspond to precise words and to a word meaning. The transition from thought to word is mediated by meaning and there is always a hidden text under one’s own thoughts. Therefore, there is no a directed way between thought and word. There is an indirect path in between them, which leads to understand that their relation is mediated by meaning.

Thus, we aimed at developing activities that enable meaning flow mediation about reading experiences through literature about school contexts; letter production addressed to meaningful teachers from early schooling experiences, and collective creation of a project about reading integrating personal experience, formative experience and school experience.

Grounded in Vygotsky’s ideas about word and thought we understand reading as a complex cultural
activity, that acknowledges ontogenetic and microgenetic dimensions of development, we come to understand that reading and writing goes beyond the notion of academic skills. As a language tool, reading has an important social and psychological function.

Our work with teachers on the Project tries to go beyond objective information. Activities and mediation strategies value most of all, subjective interpretation about information. By doing so, they are more likely to develop their awareness about their own mediating processes and in-depth their reflexivity.

At first, there was no significant understanding about the connection of their educational trajectories and their own teaching practices concerning reading. However, so far, it is possible to see some new understanding about that connection. We foresee more conclusive results about the processes of meaning construction by the end of the project.
This paper focuses on connecting natural sciences Education with Cultural Historical Activity Theory (CHAT). In this sense, Natural sciences Education is considered as a lifelong learning procedure, not seen individually but as a participation in the community (Roth & Lee, 2004). CHAT is a theory with expanding applications in the field of natural sciences education in early childhood. The students collectively act in a community in the context of rules that the entire community follows. They become engaged in natural sciences activities and they use tools in order to deal with a scientific concept. Thus, the construction of knowledge becomes meaningful for students who interact with one another as well as with tools and means into the community of learners (Engestrom, 1999). Moreover, learning becomes a human activity in which theory and praxis are strongly connected and learning outcomes are obviously seen in society and culture. Under the prism of CHAT learning involves a qualitative change of actions that may take place when people participate in meaningful cultural activities and receive scaffolding for improving of actions towards an inspiring object into the whole activity system. CHAT as well, helps us to design and develop natural sciences activities close to pupils’ prior knowledge, which usually follows the rules and uses the artifacts of the Traditional Ecological Knowledge (TEK) of the local community. Thus, according to Eijck & Roth (2008), we try to justify that although science and TEK are both forms of human knowledge, the artifacts of these forms of knowledge are irreducible to each other, and thus, these forms of knowledge also are incommensurable with each other (p.935). Consequently, we tend to use a different epistemology, that is multiculturalism versus universalism (Eijck & Roth, 2008, p. 930-933). CHAT, with the prevalent idea of the activity system, can grasp the gap and hold multi cultural approaches among the interactive activity systems.

The paper is a review of five years research on natural sciences education from a CHAT perspective in the Department of Early Childhood Education in the University of Ioannina, Greece. Effort is put on using CHAT as a theoretical framework in order to analyze and design natural sciences education activities. The ongoing research takes place within the frame of a university course entitled ‘Didactics of Natural Sciences’ which includes some lectures joined with a series of laboratory lessons of natural sciences activities. The contents of these lessons are connected with the Greek National Curriculum for the early grades which is under reforming. At this level scientific learning has been put on a cultural- historical and social basis. It is connected with inquiring in
authentic environments, practicing skills of observation, classification, communication etc. and making sense of the relations and interactions that take place in the world around us. The topics and concepts of the curriculum are related to the socio cultural background of the early grades pupils. In general, the topics include: human life, the surrounding environment, social structures and relations, life of plants and animals, natural phenomena etc. (Greek National Curriculum for the early grades, 2003). The research question addressed in this paper is to highlight some qualitative dimensions of the socio-cultural aspect of teaching natural sciences in the early grades. In other words:
1. Does CHAT into the context of natural sciences education help university students become capable of teaching natural concepts in the early grades?
2. Does it provide motivation to prospective teachers to develop innovative natural sciences activities for their pupils?
3. Is Chat a theoretical framework suitable for meaningful learning and scientific literacy development?
4. Is it possible to reform natural sciences education by using CHAT?

The methodology used in working and interacting with the university students in a laboratory lesson is based on:

i) the framework of analysis by the view of Yrjö Engeström (2005),
ii) the eight-step model of Mwanza (2001),
iii) the cultural-historical approach by Marilyn Fleer and Marianne Hedegaard (2008,2010) about children’s development in every day practices and

A variety of didactic strategies is used during the laboratory lessons which include educational drama, pantomime, cartoons, games, etc. all of which follow the basic principles of CHAT (group work, use of instrumental and conceptual tools, interactions between subjects, mediation between subjects and community). As a result of this collective activity university students become engaged in designing natural sciences activities in a socio-cultural environment. Moreover, they apply natural sciences activities in pre-primary school classrooms of Ioannina. The teaching plan for the university students is to use the basic principles of CHAT in order to have an active role in designing natural sciences activities in the laboratory lessons. This way they become able to adopt suitable didactic strategies for introducing the content knowledge in a pre-primary classroom and applying didactic transformations.

Research data are collected before, during and after the classroom implementation by observations, video recordings, interviews and analyses. This part involves university teachers, lab assistants,
students, early childhood teachers, early grade pupils who work as a community towards reforming of natural sciences education. In this regard, teaching natural sciences in a university laboratory becomes a dynamic activity system which involves multiple participants all of which act towards some common goals, which forming an objective which is included in an inspiring object, considering scientific knowledge as cultural, historical and social process and using meditative and analyzing tools.

The initial results of using cultural-historical activity theory (CHAT) in natural sciences education laboratory lessons seem promising. The five years research in the field of cultural studies of natural sciences education is a new potential to make natural sciences education a matter for children as future citizens, of a multicultural environment. Collaboration with the university students at the laboratory lessons as well in different societal educational settings with the aid of cultural tools has shown that adopting teaching strategies under the prism of CHAT bridges the gap between theory and praxis in natural sciences education. The theoretical framework of analysis of Engeström seems to be appropriate and fruitful for natural sciences education researchers. The Mwanza eight-step model provides natural sciences education learners with skills in order to design innovative natural sciences activities. The cultural-historical approach of Marilyn Fleer and Marianne Hedegaard is a useful guide for university students as it provides all the information about children’s development in a socio-cultural environment. Finally, Michael Cole and the Distributed Literacy Consortium have provided, in the project 5th Dimension, an example of an educational activity system in which university students can see multiple interactions of subjects, objectives, tools, rules, division of labour etc. taking place in different educational settings. All those interactions of different methodological processes could offer criteria to analyze and evaluate learning in university natural sciences education laboratories. All in all, CHAT seems to be a promising field for introducing the content scientific knowledge, so as to invest on the socio-cultural background of the prospective teacher that will learn, teach natural sciences and also make decisions about scientific and technological matters.

References


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In pragmatics sincerity is considered a constitutive aspect of communication. For Grice (1975, 1978) sincerity is one of the maxims that realize conversational cooperation. Conversation in principle excludes contributions containing propositions believed to be false or on which no sufficient information is available. In Searle’s work on speech acts sincerity is one of the conditions of an illocutory act (Searle, 1969). For instance, in an act of request the sincerity condition is that the speaker intends that the hearer make the requested act. From the perspective of the analysis of communication, a deceit is an insincere utterance. However, from a cognitive perspective, the issue of sincerity is more complex since communicative acts that do not reflect reality can be performed in a number of situations without the goal of deceiving, as in the case of story-telling, pretending, using metaphors or exaggerations, being ironic or making jokes. In all these cases insincere communicative acts are performed but the mental states underlying these utterances are different. There is no structural feature allowing to understand if a false statement was performed by error and then unintentionally – for instance due to insufficient information - or intentionally. And in case of an intentional insincerity, if it was aimed to realize a deceit or was intended as an ironic statement, etc. At best some external cues can contribute to the interpretation, like intonation, emotional expressions, etc.

A way to better understand these phenomena is to study how they develop from childhood. When do children learn to deal with these different situations? What is easy and what is difficult for them? How the developing capacity of mindreading contributes to this comprehension?

In the developmental literature these problems have been treated within two different frameworks. One approach has led to study these phenomena with respect to the development of the theory of mind. Deceit is the prototypical case in which sincerity is suspended and it has been argued that no deceit is possible without a fully developed theory of mind (see for instance, Sodian, 1994). White lies are a particular kind of deceit consisting in hiding one’s own feelings for politeness reasons. The trend of acquisition of this ability is very low before school age (Talwar et al., 2007). Comprehension of irony begins rather late and this is attributed to the fact that it demands the ability to deal with second-order mental states (Sullivan, Winner and Hopfield, 1995). On the contrary 2-year-old children are able to deal with fantasy and pretense (Harris and Kavanaugh, 1993). This has opened a debate between authors who have postulated the precocious development of a theory of mind mechanism (Leslie, 1987) and authors who consider that young children represent pretense as a form of behavior and that in this process no mindreading is involved.
Another trend of research criticizes the preceding approach based on the idea that the mind is fundamentally opaque and that young humans must develop mindreading to bridge this gap between minds. A second-person approach is proposed which postulates that the experience of others arises in direct emotional engagement. In real interactions children involved in close relationships with adults show abilities that pass unnoticed if one takes the theory of mind perspective. Very young children not only deal with pretense and fantasy. They also produce deceiving behaviors and different forms of humor (Reddy, 2008).

The aim of the present work is to analyze all these phenomena in terms of communication but to depart from classical Gricean definitions of communication. The preoccupation of Grice and his followers was to establish the minimal requirements allowing to define an utterance as communicative in adult communication. Grice’s definition implies higher-level mental states and this relates communication to the development of the theory of mind. Instead, if we accept the hypothesis that children are engaged in communication with others since their first interactions we focus our interest on other aspects. In particular, the main issue becomes how sharedness, which is at the basis of communication, is constructed (Airenti, 2010). This means that children’s communicative performance depends on the development of the theory of mind but also that other factors contribute to the outcome. In fact, children since their infancy construct with their communicative partners typical contexts of interaction. Thus, we can make the hypothesis that familiarity also plays a role in their ability in dealing with different communicative situations.

I shall focus on the problem of sincerity in order to analyze young children’s reactions to situations in which, according to adults’ point of view, sincerity has a different role: story telling, pretense, deceit, white lies, irony. I shall present a theoretical analysis based on experimental research about the development of comprehension and production of insincere communicative acts in 2-to-6-year-old children (Airenti and Angeleri, 2009, 2010; Angeleri and Airenti, 2010).

I shall concentrate in particular on:
- what is shared in the comprehension and production of different insincere communicative acts
- the use of the various forms of insincere communicative acts made by young children
- the relationship between these acts and the development of the theory of mind
I shall suggest that the use of these communicative modalities allows children to experience their first complex social relations.

References


Philosophical Influences on Vygotsky and the Question of Normativity: the case of the three mountains task.

Jan Derry

Both Vygotsky and Piaget were fully aware of the philosophical context of their work. Brockmeier comments on ‘...the emergence...of the omnipresence of reference to Kant in Piaget’s work (Brockmeier, 1996, p. 125) and Bronckart explains that for Piaget ‘the main issue...is nothing other than the construction of the categories of understanding in The Critique of Pure Reason’ (Bronckart, 1996, p. 93). Similarly, Vygotsky’s debt to Hegel and Spinoza is recognised (Van der Veer and Valsiner, 1993, Kozulin, 1990). Crediting Spinoza, Vygotsky remarks; ‘My intellect has been shaped under the sign of Spinoza’s words’ (Vygotsky, 1971).

This paper argues that certain characteristics of the Piaget’s three mountains task can be understood as a reflection of a presumed Kantian framework. This argument involves a particular reading of both Kant and the early Piaget. The purpose is not to deny the existence of reference to norms in Piaget’s work but it is a specific stance on the nature of normativity that is of interest here and in particular considerations of the distinctive nature of human awareness and of responsiveness to reasons (Brandom, 2000).

The philosopher Robert Brandom claims the representationalist paradigm (that is awareness understood in representational terms) has reigned supreme since Descartes. Countering this paradigm, he argues that to understand ourselves as knowers we need to reverse the conventional order of explanation which prioritises representation over inference. We should instead understand conceptual awareness in inferential terms i.e. in terms of the network of inferential relations (what is a reason for what) that constitute concepts in the first place. Like Vygotsky, Brandom credits Hegel for inspiring his project and both locate conscious awareness in social practices thus allowing for an account of the origin of cognition in sociogenesis.

Of significance here is that, for Vygotsky, the development of scientific concepts is not one of separation, but of the repositioning that arises when a child uses a word for a different purpose and as a result, in a new sense. However as the old meaning is retained in the new, the new is therefore not entirely novel. Consequently what is involved is not only a merely different understanding of a new concept, but also crucially a new element of conscious awareness—an ability to act in the world in a new way. This ‘historical’ approach is evident throughout Vygotsky’s writing. In his discussion of scientific concepts he criticises the view that scientific concepts may be learnt in a completed form, and emphasises that in such a view ‘scientific concepts do not have their own
internal history’ (Vygotsky, 1987, p. 169).

In this paper attention is given to the significance of the ability to situate a concept within a system of concepts. The tendency to abstract the concept of thinking from the world in which it takes place and the forms through which it is expressed finds its origin in Descartes’ dualism. Vygotsky continually attempts to explain mind (thinking) and world in a different way. He uses the Hegelian terminology of becoming in an attempt to retain the complexity of what is easily misunderstood as a simple relation of representation between thought and word: ‘thought is not expressed in word, but is completed in the word. One might therefore speak of the becoming (the unity of being and non-being) of thought and word’ (Valsiner & Van der Veer, 1991, p. 370).

Vygotsky’s discussion of scientific concepts cannot be separated from deeper questions of consciousness and in turn from the influence of Spinoza on his thought. For Vygotsky consciousnesses was an unsettled question, and, then as now, one on which researchers and commentators are still working. In keeping with his rejection of Cartesian dualism, he does not see consciousness as a state of mind apart from the objects and activities of consciousness. By changing the relation to the object, new possibilities for action arise: ‘To perceive something in a different way means to acquire new potentials for acting with respect to it. At the chess board to see differently is to play differently’ (Vygotsky, 1987, p. 190). But significantly he states that ‘[o]nly within a system can the concept acquire conscious awareness and a voluntary nature (Vygotsky, 1987, p. 191). For Vygotsky ‘at one and the same time, generalization implies the conscious awareness and the systematisation of concepts’ (Vygotsky, 1987, p. 191) and he argued that ‘the capacity for deduction is only possible within a definite system of relationships among concepts’ (Vygotsky, 1987, p. 192). Within a system, sensitivity to contradiction was possible.

The argument here is that Margaret Donaldson and her colleague’s replication of Piaget’s experiments (to demonstrate the conservation ability and egocentrism of the child) achieved different results to Piaget because they introduced what effectually was systematic meaning into the test i.e. normativity was in play. However, this was not exactly the way in which they interpreted the success of their results. In Children’s Minds, Donaldson explains the success of Martin Hughes’ redesign of the ‘mountain task’ in terms of the fact that it ‘requires the child to act in ways which are in line with certain very basic purposes and intentions (escape and pursuit) …’ (Donaldson, 1978, p. 24). She saw it as introducing the motives and intentions of the characters involved in the task. However, if we follow Vygotsky it could equally be argued that Hughes’ replication introduced not merely context that provided purposes and intentions but also the systematicity necessary to allow the child to make decisions according to a meaningful system of relations. If Brandom’s Hegelian point about the inferential character of any representation is taken seriously
then what the children were offered in Hughes’ task was the visibility of the ‘reasons that follow from’ and the ‘reasons that are implied by’, the task’s events. The evidence in the Hughes’ experiment indicated that the majority of children were able to ‘de-centre’, unlike the egocentric children evident in Piaget’s experimental results.

Vygotsky’s critique of Piaget’s designation of egocentrism as evidence of a child’s incapacity to think abstractly stems from his argument that conscious awareness is sustained by the location of concepts in meaningful relations to one another. In the case of scientific concepts, meaning is developed by the location of concepts to one another rather than simply by direct reference to the world. Vygotsky used the systemic relation of concepts and the possibility of conscious awareness, to criticise the early Piaget’s understanding of the relation between egocentrism and thought in the child: ‘We found the source of the lack of conscious awareness of concepts not in egocentrism but in the absence of system in the child’s spontaneous concepts’ (Vygotsky, 1987, p. 193).

The point that should be stressed is that none of these concepts as Vygotsky understood them, that is: Consciousness, Free will, Scientific (academic) concepts, Development, can be understood apart from one another. Each is related to the other three. For example consciousness is stimulated by externalities when our responses are not passive, that is to say when we act using concepts which have a systematic relation to one another. The possibility of acting, rather than merely behaving, arises through the human capacity to formulate scientific concepts or to put it another way to develop what Spinoza called adequate ideas. Vygotsky’s focus on systematicity can be traced to the influences of Spinoza on his thinking. It is from Spinoza that Vygotsky develops his idea of conscious awareness and will.

The idea of the possibility of consciousness and the notion of objectivity (truth) here is expressed in a different way from that in the work of Kant, the main influence on Piaget. The significance of systematicity for both Spinoza and Vygotsky, is that the meaning of individual concepts can be understood in terms of their place within a system of concepts i.e. what is a reason for what is made visible. The Donaldson/Hughes mountain task involves a systematic set of relations between the ‘seeking policeman doll’ and the ‘hiding child doll’. What it is to see from another point of view to one’s own is constituted by the very structure of the task as the meaning of each of its components is constituted, in part, by their relation to all the other components. Although Donaldson and her colleagues may have emphasised other aspects such as language, goal, orientation and context in their interpretation of the success of young children to decentre, what is crucial to the ‘hide and seek’ task is that it makes explicit normative elements (i.e. what is a reason for what) in a way that the three mountains task does not. Relocating the ideas of a child in the network of inferential relations which will give the child new meaning requires attending to the nature of normativity, to
what is a reason for what and to the distinctive character of these relations in different knowledge domains. This paper will argue that by drawing on contemporary readings of Hegel (Brandom) to bring out ideas at the heart of Vygotsky’s work we can look at classic work in psychology anew.
How does the object’s cultural conventions influence early psychological development? A video illustration

Nevena Dimitrova

Early interaction between a caregiver and an infant is organized around objects – in ways of perceptual stimulation, essentially during the first months of development, and later, as a communicative medium. This aspect of the way the object enters in the communicative interaction between a caregiver and an infant has been underlined by several influential psychologists, including Trevarthen (1978) with the advent of secondary intersubjectivity; and Tomasello (1995) with the emerging capacity for joint attention and engagement. The way the object influences early development has also been the focus of scholars studying early communicative competencies, namely preverbal gestures (c.f. works from Bates and colleagues, 1979). These highly important works have mostly allowed conclusions about the way the very young child will connect intersubjectively to another person, namely how the infant would start to understand herself as a separate agent and how she would start acting on her environment. To give an example, the child is considered to possess an elaborate understanding of her own and the other person’s attention state in order to perform an intentional action such as a pointing gesture towards an object. Thus, research on early interaction between a caregiver and an infant with objects, has predominantly focused on rather philosophical matters such as mental attributions and understandings between communicative partners.

In this presentation, I wish to highlight the fact that, when it comes to triadic (caregiver-infant-object) interactions, this emphasis on mind-reading and mind-sharing aspects has brought developmental scientists to neglect an important aspect in infant’s psychological development: the way a knowledgeable adult transmits cultural conventions about the object (i.e. the object’s conventional use) and the way the young child progressively appropriates them, thus constructing meaning. This aspect, namely the way communicative partners share meanings and come to establish common ground about artifacts (such as toys in early interactions), has been the subject of less research. In this presentation I would like to argue that, within triadic interaction, there is a strong relationship between the way infants come to develop communicative capacities and the way they appropriate meanings about the object. My aim is to suggest an alternative way of analyzing early triadic interaction: within interactions with a caregiver and objects, the child is brought not only to develop communicative abilities (understanding and producing preverbal gestures) but also to acquire cognitive capacities (construction of objects’ meaning).
In order to perform such an analysis and suggest such conclusions, I first provide the theoretical framework of this study, then I briefly expose the methods and finally suggest a video example of a triadic interaction. The analysis of this example should allow illustrating how early communication and cognition are intertwined when we provide a serious account of the role played by the object in early psychological development.

This account of the importance of the object in early psychological development is found in the semiotic approach of children’s development of object pragmatics (Moro and Rodriguez, 2005). The basic postulate behind this approach is that early interactive processes can be studied in semiotic terms when considering that objects’ uses are the fruits of cultural and historical conventions. When interacting with a child and an object, an adult transmits the meaning of the object, i.e. its use in a given culture and/or historical epoch. This meaning is contained in non-verbal signs that the adult employs in her use of the object. Following Vygotsky’s cultural-historical approach of psychological functioning (1978), this sign mediation is considered to be the fundamental motor of the development of the mind. In the analysis that I aim to suggest here, the signs that the adult uses when interacting with her child and a toy will be considered both as communicative devices (e.g. pointing, hold-out gestures, etc.) and as tools for meaning transmission (e.g. demonstrations of toy use).

The study that I conducted consists of video-taped longitudinal observations of 12 children interacting with their mothers and four different toys. The observations took place in a home setting. Each mother and her child were invited to perform 5 observations in an interval of 2 months. Two age groups were formed: 6 children were observed from 8 to 16 months and 6 children were observed from 16 to 24 months old. The observations were coded in 3 steps: first, episodes of joint engagement were selected; second, interactions were coded for both mothers’ and infants’ type of use of the object (non-conventional, proto-conventional, conventional and symbolic) and for the produced communicative acts; the third step consists in locating highly relevant interactive situations where the child produces communicative acts and micro-analyzing them in semiotic terms. The goal of this analysis is to gain better understanding of the context of occurrence of the produced communicative act(s), about their function and their relationship to other communicative acts.

I turn now to a video example of an interaction between a mother and her 8 months-old son with the shape sorter toy. This example is selected in order to illustrate the way of analyzing early triadic interaction when accounting for the importance of the object – both in respect to the communicative acts employed and in respect to the knowledge about the object use that is being transmitted by the adult and appropriated by the child.
During the 7-minutes play with the shape sorter, the communicative partners are almost entirely jointly engaged with the toy. The infant clearly doesn’t master the conventional use of the object yet; he essentially throws the shapes or puts them in his mouth. The mother is the active person in this interaction; the child being mostly an attentive spectator of what she is doing. A pattern within the mother’s communicative acts can clearly be identified throughout the play: the mother takes a shape, holds it up to the child (a showing gesture) as if to make sure he is attentive to what she is doing, then she makes a demonstration of how the shape is to be inserted in the sorter (demonstration of the conventional use of the object) and finally, she holds the shape out to the child (a giving gesture). This pattern reveals two important features: it consists of communicative acts (showing and giving) and of an element of transmission of the meaning of the object (demonstration of its use). As it has been said, the child is unable to perform the conventional use of the object but most interestingly, he doesn’t “understand” the mother’s communicative acts – he doesn’t take the shape that is being held out to him, thus not understanding that if an object is being held out, he is supposed to take it. Through the play, the mother repeats this pattern several times. By the end of the sequence, a change in the infant’s response is observed – he not only stretches his arm and takes the object that the mother is holding out for him, but he also directs his hand holding the shape towards the sorter (although without succeeding to insert it). This change is considered as an important step in the child’s understanding of both a communicative act (if give, then take) and the meaning of the object (if shape, then put in sorter).

In the classical way of analyzing this type of interaction and the behaviour of the child, authors would discuss this progress in respect to the communication process, i.e. in terms of preverbal gestures and the understanding that the child would have of the mother’s intentions. However, it is not by chance that the child arrives to this type of communicative understanding – it is rooted in a particular interactive pattern which is highly organized around the use of the object (the shape sorter toy). It is indeed within the mother’s instructional activity of what to do with this object (demonstration of the cultural and historical convention of how the object is to be use) that such communicative competencies would arise (understanding of “if give, then take”). This type of analysis of triadic interactive dynamics focused on the role played by the object is believed to shed more light on how early communicative processes arise. Like later in development, with the advent of linguistic signs, cultural and historical conventions of how objects should be used mediate the child’s activity and understanding of the others and the world, thus mediating the psychological functioning as early as the preverbal period of development.
541. What kind of interactive and discursive structures teachers and students interact through into university classrooms?

*Mar Prados - Mercedes Cubero*

The fundamental principles of our theoretical and methodological approach define the teaching-learning process as a constructive, social and communicative process. This perspective on teaching-learning process is rooted in the conceptual and methodological contributions derived from two approaches: Historical-Cultural Psychology (Bruner, 1990, 1996, 2001; Cole, 1996; Cubero, M. et al, 2008; Santamaria et al 2010; Vygotsky, 1986, Wertsch, 1991) and Discursive Psychology (Edwards, 1997, 2006; Mercer, 2008; Potter, 2005). In this context, we pay special attention to studies that analyze knowledge construction as a negotiation and construction of meanings through discourse, because it is viewed as a privileged way of studying the communication processes where knowledge is negotiated and constructed (Prados, Cubero & de la Mata, 2010).

From this point of view, we have studied the teaching-learning processes in university classrooms from the perspective of joint construction of meanings. For that purpose, we have analyzed the discourse that takes place in professor-student interactions in two university classrooms. Specifically, we have pursued the following specific goals: (a) describe what the discourse of students and professors is like; (b) identify the interaction structures (the way to organize professor-student interactions); (c) study the role of the students in the joint construction of knowledge.

In this sense, we have videotaped the development of a thematic unit in two university classrooms characterized as instances of “good practices”. Discourse interaction in the teaching-learning process in the classroom was analyzed by attending the organization of joint activity between teachers and students.

We should confirm that for an educational practice to be classified as “good”, the activity of the professor and the students has to be inter-related and to be interdependent in several ways. On the one hand, the professor must design the teaching process –with the objective of ensuring a deep and substantial understanding of the material- based on the characteristics of their students. Throughout the process, they must continue to make relevant adjustments and to guide the learning activity of their students, whose active participation must increase as the process advances (Northedge, 2003; Rogoff, 1990, 1993, among others). Said student activity consists in making use (Wertsch, 1998) of the contents elaborating meanings and making sense of the learning process. But, in addition, it is important that their collaboration be encouraged by means participation in various types of group
activity, in such a way that the help and guidance can also be given by and received from other students.

Following the criteria mentioned by Stake (1995), these two classrooms were also selected because of the opportunity to learn which they provide. In other words, we have selected these examples to learn more about the general aims of our study. Glaser and Strauss (1967) proposed the concept of theoretical sample, as one of the possible sampling procedures to be used for qualitative studies. They refer to a sampling method where the focus is on searching for people and situations that could be “especially relevant for the topic to be studied. This is a way to gather rich and evocative data in a pure and natural manner with a minimum cost in time” (p. 224).

The videos were digitalized for their later transcription. The transcriptions were coded according to a coding system which considered the key details of the discourse, as well as the observation of contextual elements. These conventions are based on the system developed by Jefferson (Atkinson and Heritage, 1984; Sacks, Schegloff and Jefferson, 1974) and tried to capture the nature of speech as a social activity, as well as important aspects of discourse as situated, articulated and co-constructed action in social interaction (Edwards, 1997; Edwards and Potter; 1992; Potter, 1996). In addition, our transcriptions also include other non discursive actions such as pointing, gestures or bodily expressions that help the understanding of what is said orally.

We are going to present a selection the results referring to macro-level analysis, that means the interactive structures identified in the classrooms. We understand as interactive structures, such types of organization of the didactic or group interaction between the participants, in an activity setting. In our case, these reflect the manner in which discursive interaction takes place between professors and students throughout the thematic unit. We have identified two kinds of interactive structure. One series of interactive structures in which the possibility of student intervention is limited when compared with the protagonist role of the professor: Teacher monologue, Presentation like a dialogue, Conversation between teacher and student. On the other hand, we found ways in which the students took a more protagonist role: Student’s monologue, Discussion, Succession of unanswered questions, Work in small- groups

From these interactive structures we have developed a mapping for each classroom. From these maps we have obtained relevant information on, among other factors, the role given to the students in these classrooms. So we can say that the time in which students have an active role in discourse is very high and even higher than teachers. But even in that time it was the teacher who directed, controlled the turn, decided the meanings, gave students the opportunity to speak, and so on. In both classes we found that there were time to discuss and others in which the teacher supports their explanations in the student discourses, what we have called discussion or presentation as dialogue.
It is important to indicate that it is not enough to leave the students alone in their discussion and reduce the professor’s role to that of an impartial moderator. In our classroom discussions, the professors moderated interventions and also guided meaning construction. We have observed that professor’s interventions acquired superior power and relevance as the discussion went on. Frequently professors closed the discussions, either by legitimating certain knowledge or ideological positions that were being discussed, or by changing the activity. Without any doubt, discussions were the richest moments in the process of meaning construction in both classrooms.

We state this because this form of discourse was similar to exploratory talk defined by Mercer (2008), Wegerif and Mercer (1997) and Wegerif, Mercer and Dawes (1999). These authors have referred to this type of conversation in relation to the quality of children’s conversations when they work together and in relation to the role of the professor, in giving assistance within these discussions. In these groups, students dealt with the ideas of other students critically but constructively. Authors citing these qualities characterized this type of conversation by considering it to be the most desirable to facilitate reasoning.

In this way, most of the social-constructivist proposals understand learning as the socialization of students in new forms of speech and modes of discourse, which are specific to every cultural and historical context. In Bruner (1986, 1990, 2001), Cubero, M. et al. (2008), Edwards (1997, 2006), or Wertsch (1985), for example, we find that learning can be regarded as a process of "socialization of new modes of speech" or, in other words, as a process that lets the students acquire new ways of understanding and explaining reality. We should not think that letting students talk is enough to consider a professor to be constructivist in his/her work, or that students will necessarily succeed in acquiring the new ways of speech, but certainly it is a step. We know that working in the classroom and allowing the students to discuss their and others’ ideas make these ideas explicit. And furthermore, these ideas can be different and produce conflicts. It is more likely to get this socialization of speech by the students that in a classroom where there is not the opportunity to "practice the discourse of the subject".

We concluded that learning can be conceived as a process of socialization of new ways of discourse: the acquisition of new forms of understanding and explaining reality and, therefore, university teaching should focus on the students and promote conversation between teachers and students. Because some specific discursive structures can help the students to become the protagonists of their learning were identified. Among these strategies, conversation or discussion were one of the most effective resources to promote participation and learning in higher education. Because students have much to contribute to the process of meaning construction in the classroom through their discourse and in fact they do it when allowed.
These ideas have not only been of use for the comprehension of the teaching-learning process in university classrooms, but also when face with the reflection about the possibility of how we could have an influence on the improvement and quality of University professors. We believe that if we continue to work along these lines, we could contribute to the elaboration of a theoretical framework for the teaching-learning process within the university environment, as if we think about the training that the university professors receive in order to be professors, it can be seen that this is very scarce.
The relationship between schooling and cognitive skills is an historical issue in developmental psychology. This relationship has been marked by the entailment between intelligence test and schooling. Even today, too often schools are in an evolutionary discourse that is embodied in the idea of "deficit" (the idea of children "lacking of") to explain the differences between cultural groups.

We share the idea that school has a key role as a training tool for new members in their own culture's skills, within industrialized societies (Rogoff, 1993); but investigators such as Scribner and Cole (1981) or Rogoff himself (1993) show that there is no clear relationship between schooling and cognitive achievement. Despite this, data on school failure in certain cultural groups (gypsies) are often justified as difficulties and/or limitations in their cognitive skills and more specifically in relation to their communication skills. If we follow Bourdieu (1976) in his idea that acquiring the linguistic competence of legitimized speech supposes its practice, it is essential to know their use of language and the situations where their use is socially acceptable. An inadequate use of privileged language, will be a learning obstacle, despite dominating a non-privileged language (Bourdieu, 1985). If our goal is that children are able to participate effectively and correctly in verbal communication exchanges between people, we should ask ourselves what are the communication skills these children must learn, as proposed by Lomas (2002). The author also asks whether these skills are finally acquired in school by any child, regardless of cultural group to which it belongs. Therefore, it is essential to think about the role of school as a space for the language use acquisition, where different social languages have a place, as the Bakhtinian conception (Werstch, 1993), and if the boosted skills are the most effective for an "adequate" language.

From a cultural perspective, the evaluation and/or explanation of the differences between certain cultural groups should focus attention on the contexts: what people do, where and when (McDermott and Roth, cited by LCHC, 1982); and at the same time taking into account the relationships between communities, since its history is closely tied to those relations. This attention to context is, according LHCH (1982), to observe and learn about the different cultural practices of groups that we are evaluating and to consider what will be the activities where will take place the new members' learning.
In this paper, we present the research results under an educational intervention project where the researcher is positioned as a participant observer, part of the context in which it occurs. This research is framed in a public school in Barcelona's suburb called: “unfavorable environment”. More than 80% of population enrolled in this school belongs to minority cultures and during the last decade the children from other countries has reached the 48%.

Our main goal in this research is to observe and describe the type of language used in a practice community framed within the school, and in which new technologies and collaborative work are the main pillars. It also aims to understand the aspects that influence the use of one language or another one in these contexts.

The research is conducted focusing on ways of language, contents and its uses, and more specifically following Edward and Mercer (1988) in an analysis that focuses on the shared knowledge construction in daily life scenarios and where language is understood as a social way of thinking (Mercer, 2001). This study analyzes the use of language in an activity that despite being included in the classroom, it has no known conventional structure, but it operates from 5Dimension model (Cole, 1999).

As for the design, gathered the speech of a couple of gypsy girls with a university student for an entire semester and was raised a case study from the discourse analysis perspective. Also it was carried out a classroom observation as a contrast exercise between the speech that appears in the mainstream classroom and the one in the context of 5D activity studied. Thus, the investigation is completed with some interviews realized to teachers, knowledgeable of context and the study population, to view their discourse about the capabilities or limitations of children in communication terms. With ATLAS.ti program (belonging to the CAQDAS) generated a series of explanatory categories, which gave way to a data analysis.

In this work's conclusions we see how the activity generated allows an environment in which mutual understanding is a priority and where the participants use different strategies to maintain communication. Educational practice is geared to emphasize the process rather than the effectiveness on objectives, as noted by Pérez Gómez (2001).

We also see, how appears the use of a particular social language and how Bakhtinian notions as identity, audience and ventrilocution have a decisive bearing on the discursive genres chosen in communication.

**Bibliography**


One of the most important characteristics of any age period is the leading type of activity (A.N.Leontiev). This category - one of the fundamental concepts in child psychology.

In adolescence, the leading type of activity is a controversial subject. Critics of the concept of leading activity rightly point out that it is not developed empirical criteria for diagnosing the leading activities, and because it is largely prescriptive in nature, a generalized view of the current unified model of socialization that it does not take into account the polymorphism of the leading activity, most notably, from adolescence.

The ability to verify the hypotheses of this kind inevitably faced with the operationalization of the leading activities and methodological insecurity diagnosis leading activity. It is important to draw attention to the empirical approach to the diagnosis of attributes (parameters, criteria), which must correspond to activities to confirm status of "lead". One of the promising approaches to these problems may be the analysis of activity-oriented experiences of adolescents, their age and gender characteristics, as well as interindividual variability. Activity-related experiences - experiences a teenager, which relate to any activity and reflect the dissatisfaction and concern with certain conditions, processes and outcomes important for teens activities.

Any activity requires certain conditions for its implementation, both internal and external order: knowledge, skills, abilities, time, location, finances, partners, organization, facilities, support for family, etc. Certain limitations and difficulties for the implementation of activities are unfavorable factors and events that may cause negative (anxiety and frustration) emotions. At the same time, the overall intensity of the experience depends on the significance of this activity for the subject, that is, ultimately, the strength of his need for activity and its results.

The theoretical basis of the proposed approach to the operationalization of the concept of leading activity serves the idea of L.S.Vygotsky about the unity of feelings, social situations and activities: "the child is part of the social situation, the child's attitude to the environment and protection of the child is given through the experience and activities of the child; force protection acquired through the experience of sending the value of the child. This requires a deep analysis of the internal feelings of the child, i.e. to study the environment, which has moved to a large extent inside the child, and not reduced to the study of the external environment of his life "(Collected Works, op., v. 4, 1984, pp. 383). .

To analyze the activity-oriented experiences of adolescents under the leadership of B.G. Meshcheryakov in 2009, was designed Polling method for identifying profiles of activity-oriented
experiences associated with the types of activities that various authors were seen as leading in adolescence (modified questionnaire activity-oriented experiences). Analysis of the results of the survey allows us to construct profiles of the intensity of activity-oriented experiences in different periods of adolescence and to describe the age dynamics of personality-relevant requirements and related types of activities in adolescents.

The questionnaire contains seven blocks of allegations and issues relevant to certain types of activity: "Educational Activities", "Communication with peers", "Ideological self-determination", "Training and professional activities", "socially approved activities", "Career self-determination" and "self-evaluation". Any difficulties or problems that are contained in the questionnaire items are a shortage of various resources required for full implementation of activities. This may be the lack of time, space, material resources, lack of information, assistance from others, i.e., difficulties caused by external circumstances. Since the implementation of the required internal conditions (resources), such as skills, knowledge, interest, desire, some items were designed to diagnose internal conditions and their respective experiences.

Special questionnaire contains immediately form of questions and form of answers.

Flight research with the help of the questionnaire of activity-oriented experiences initiated in Moscow in 2009 (Rakhmatullina E.). Also, a study using this technique were also held in Dubna, in 2009-2010 (Avdonina N., Khotuleva M). The study was conducted in the form of group interviews in school time in 6, 7, 8, 9, 10, 11 classes of schools in Moscow and Dubna.

Results Pilot studies were processed and analyzed using the package «SPSS 15.0».

Due to the fact that the correlation between the two indicators experiences (frequency and intensity) is highly significant, was introduced an integral indicator of experience, calculated on the basis of two components - the frequency and intensity.

On the basis of the integral index for each period of adolescence (12-18 years) were constructed profiles of activity-oriented experiences that reflect the real needs associated with significant adolescent activities. These profiles reflect the age dynamics of activity-oriented experiences, as well as the importance of each activity at different ages.

Analysis of the results at the group level suggests that adolescents of all ages do not fit the model of a unified policy leadership activities. We can assume that for one and the same age there is some diversity of individual needs and leading activities.

This study is not complete. It will continue in Moscow in 2011. Planned to conduct a survey on the developed methodology in various schools of Moscow, which differ by the level and specificity of training. For example, in mainstream schools, special schools with developing programs, in schools for gifted children. Also planned to develop additional techniques for a more complete description.
of the age dynamics of activity-oriented experiences in adolescence.

References
Over recent decades there have been significant levels of policy and research interest in the role of young people as civic actors. In this paper we ask how adolescents’ thinking evolves around issues of civic responsibility and the meaning of civic action in their lives; how students develop a code of ethics and the skills of judgment in relationship to civic action; how students begin to evaluate various kinds of civic participation and the implications of particular actions; and finally how they integrate their actions into their civic identities. But we focus on these issues in contexts of identity-conflicts within which taken-for-granted elements of civic life are potentially open to challenge, and new forms of civic action have to be constructed. The evidence we will examine is derived from a three year comparative study of 14-16 year old secondary school students in the United States (US), Northern Ireland (NI) and South Africa (SA) entitled Developing Civic Actors in Divided Societies (DECIDES) and funded by the Spencer Foundation. The design and analysis plan for DECIDES rely on Vygotskian and neo-Vygotskian theories of development and Bakhtinian theories of dialogism. We plan to discuss how these theories contribute to the project’s framing and how the theories fit together in our thinking.

Study students are enrolled in social studies classes that use Facing History and Ourselves (FH) curriculum. Besides its use in all three settings, FH curriculum seems an ideal tool for this study since it supports the kind of development we hope to study. FH stresses “the meaning of civic participation and the critical need to promote a just society.” It focuses students’ attention on the dilemmas people face and how they handle them, what Engeström (2001) calls “double binds,” after Bateson (1972). The curriculum explicitly uses historical cases (e.g., the Weimar Republic) to help students understand choices about action or inaction in difficult situations, exploring when one chooses to be a perpetrator, bystander, and/or upstander. It aims to prepare students to face and ultimately make decisions about civic action.

Importantly, we follow Vygotsky’s distinction between learning and development, defining development as grand, structural changes. Cole (2009) claims that “learning and development are coterminous,” that learning is needed to push development forward (as opposed to Piagetian theory that says that learning and development are “two entirely separate processes” such that one must be “ready” developmentally and then one can learn). Vygotsky posits a “zone of proximal development” (ZPD) as the space where an individual cannot perform a task that will lead to
development alone but can perform it with the help of a more expert other. Through learning, with the assistance, we develop. Our study, although focused on understanding development, looks closely at learning opportunities that support development. Creating supportive teaching-learning spaces is the goal of the FH curriculum and of the case-study teachers in each setting. The hope is that such learning will lead to development.

Vygotskian (1980, 1986) and neo-Vygotskian (e.g., Leont’ev, 1981; Engestrom, 1987, 1991, 2007; Cole, 1991; Daniels, Cole & Wertsch, 2007) theory leads us to assume that human development depends on learning to use social mediators or tools (e.g., language, computers, books), to achieve learning goals. Developing increasingly sophisticated tool use is part of the story of how the human species develops through learning (e.g., in written communication the tools change across time from cave paintings, to hieroglyphs, to syllabaries and alphabets), just as it is part of and affects the story of how individual humans develop (e.g., humans developed the new tools of written communication and with each developmental historical shift, the new tools in turn afforded humans opportunities to develop in previously unimaginable ways). People learn to use and re-imagine tools and their uses through participation in “activity systems.” Leont’ev (1981) explains that “activity” is “a system with its own structure, its own internal transformations, and its own development” (p. 46).

We consider the FH curriculum to be a complex tool within the activity system of the classroom and school. This tool is designed to support students in developing as ethical civic actors. Thus, it is crucial to the success of our research to understand how students do and do not make use of the tool, how their uses vary across the three settings and across individuals within each setting, how the tool does and does not support other activities, and how those activities might vary across settings. Ultimately we are interested in how students participate in activities that involve what they learned from FH, particularly how their participation relates to their development as civic actors in the larger social and historical worlds within the three settings, with special attention to the divisions within those settings.

Given the FH materials and accompanying teacher education programs, we expect to be able to study the development of students’ more nuanced and complex thinking about civic action as they engage with the curriculum and practice judging whether actions are right or wrong, recognizing the complexity of how seemingly “right” actions can have negative effects. We expect to see how young people come to recognize degrees of tolerance in judgments about civic action and how such recognition influences their decisions. For example, a boycott might draw attention to an injustice, but could also mean that people lose their jobs. Or, closer to this research, in Northern Ireland single-identity organizations are common spaces for projects promoting peace and reconciliation,
but does working in these spaces further segregation?

Given the complexities of the civic spaces in the settings we are studying, Bakhtin’s theories are especially useful for seeing how the activity systems and the tools within them function. Drawing on Bakhtin’s (1986) theories of conversational interactions, we understand that “Unless one accounts for the speaker’s attitude toward the other and his utterances (existing or anticipated), one can understand neither the genre nor the style of speech” (p. 98). Bakhtin helps unpack the cross-group interactions and dialogues that are animated by the voices of the larger society, of members of varied groups within the society, and of voices introduced through the FH curriculum. Indeed, because of the often conflicting voices heard by young people who live in countries that have suffered from violence and deep civic divisions, civic identity is a particularly complex construct, especially when they identify strongly with a group which has historically been in conflict with another group and when the conflicting groups have different histories of privilege and oppression and varied positioning in the larger society. Such is likely the case for Catholic and Protestant religious groups in Northern Ireland; Black, Coloured and White South Africans; and Asians, Blacks, Latinos, and Whites from varied socioeconomic groups in the United States. Understanding these varied voices and tracking their particular roles in students’ development is essential to our project of understanding the development of civic identity.

In organizing and analyzing student conversations, we will look for the students’:

• understandings of ethical behavior,
• understandings of civic action, or engagement and/or politics,
• understandings of ethical civic action,
• thoughts about whether they think ethical civic action is taught in schools (theirs or others they know about) either directly in the classroom, or indirectly through the way the school operates as a social institution,
• sense of how difficult aspects of this kind of teaching should be addressed, or are being addressed.

The study’s focus on identity-group conflicts carries high stakes since such conflicts threaten the very existence of nation-states as well as the global world order; this is as true from the viewpoint of the United States as from the viewpoint of NI or SA. We studying NI and SA as well as the US because citizens in all three contexts are struggling to overcome conflicts that have threatened and continue to threaten their social fabrics. The contexts also share a goal of reducing tension and ending identity-group violence; they have all turned to the schools as a key agent of future positive change; and they are engaging with the consequences of segregated schools, which have inhibited equity and provided barriers to social engagement among young people.
The Vygotskian and Bakhtinian theoretical frameworks both seem important for our study. In the end we expect to learn about the kind of learning that young people think provides them with a foundation for ethical civic action in the face of identity-group conflict—what is critical in terms of baseline knowledge—and how such foundational knowledge relates to the ways students begin to take action. We also will examine teachers’ views about their students’ learning and development. Finally, we will explore how the larger social context may influence the students’ views about civic action and their possibilities as civic actors in their larger world.
One of the defining features of Vygotsky’s theoretical position focused on the significance of the social context. Vygotsky and Luria (1994) argued that ‘Social forms of behaviour are more complicated and are in advance in their development in the child’ (p. 153). That is, children engage in activities within their social world and through this interaction work collectively with others, often above what they could do independently. Social competence as conceptualized from a cultural-historical perspective examines the relations between social context as cultural practice, and an individual’s emotional development. However, most research within the early childhood period has focused on an individual construction of social competence or resilience. This study draws upon a cultural-historical theory of social competence and, through this, elaborates how social and emotional development in the early years can be reconceptualised.

Examining social competence from a cultural-historical perspective requires a different theoretical mind set from what is generally found within early childhood education, and a very different set of theoretical concepts to be applied to this problem area. Whilst a range of concepts were drawn upon to inform the study, within the word limits of this application, only the concept of motives is discussed. Leont’ev’s (1978) cultural-historical reading of the concept of motives is drawn on to illustrate that:

…the object of an activity is its true motive. It is understood that the motive may be either material or ideal, either present in perception or existing only in the imagination or in thought. The main thing is that behind activity there should always be a need, that it should always answer one need or another (Leont’ev, 1978: 62).

Leont’ev (1978) suggested that in Vygotsky’s general collective meaning of activity, researchers must consider specific activities ‘each of which answers a definite need of the subject, is directed toward an object of this need, is extinguished as a result of its satisfaction, and is produced again perhaps in other, altogether changed conditions’ (p. 62). The central idea in Leont’ev’s theory is that every activity is driven by distinct motives and these motives do not arise from within, but rather are the objects of the material world. Stetsenko and Arievitch (2004) argue that what Leont’ev ‘wanted to achieve by introducing the notion of object-motive was to convey the idea that human activities are always driven by something objectively existing in the world, rather than by some event and occurrence in the hidden realm of mental processes or human souls’ (p. 482). As
such, motives are socially produced within the human world and ‘an individual activity bears the birthmarks of and reflects these collaborative practices, never becoming completely isolated from the social processes that give rise to it’ (Stetsenko and Arievitch, 2004: 487). Stetsenko and Arievitch (2004) suggest that although the positioning of motives outside of individuals seems counter intuitive, it is nevertheless an important concept in cultural–historical theory. As children grow they ‘increasingly enter into connection with historically established human experience, and come to know objective reality with increasing breadth and depth’ (Leont’ev and Luria, 2005: 47). Motive defined – as something generated through observing or participating in an activity, rather than as something that comes solely from within, is a powerful concept for examining social competence within the preschool period. However, this theorization does not take account of the child’s perspective. The child’s perspective is evident in the theoretical writings of El’konin (1999a-e). El’konin (1999a) in returning to Vygotsky’s original theorization of activity, foregrounds the importance of the dialectical relations between the ‘child’ and the ‘object’ through the ‘social’. In particular, the child’s changing relations to her/his environment is foregrounded. For instance, the toddling baby is oriented towards a spoon (object) and eating (social). As the toddler gains more experience of the world, the child moves from a focus on eating implements (object) to how the objects are associated with caring activities in the preparation of meal times (social) – thus making central the child’s changing view of reality. His theorization of motives makes visible the child’s perspective within the child-social-object relations, and is helpful for gaining a deeper understanding of the child’s lived world and their relation to it. For example, Veresov (2006) suggests that in this theorization, Vygotsky’s concept of the social situation of development must be foregrounded: Vygotsky speaks here not of activity, let alone leading activity, but precisely of the relations BETWEEN the child and his [sic] social environment …the latter is a form of relations of the child AND society. The difference in contexts here is that while for Vygotsky the social situation of development is characterized by a definite leading type of relations between the child and social environment, for Leont’ev a leading activity is a ‘relation of the child TO reality’ (Versov, 2006: 15:).

Through the child’s changing relations to reality, the child acquires a ‘qualitatively new space of possibilities’ (Versov, 2006: 22:).

Motives as a psychological concept for understanding social competence, provides an important direction for examining how fairy tales motivate and influence children’s development. Cultural-historical studies such as those carried out by (El’koninova, 2001) have demonstrated how fairy tales model the motives of moral behaviour for young children.
Significance and innovation: A cultural-historical study of social competence in the early years presents an innovative approach to research in this area because most researchers, policy makers and practitioners frame social competence in relation to a study of dispositions – dispositions as located within the individual. The term dispositions falls within a traditional framing of early childhood education of breaking a child’s development into social, emotional, physical, language and cognitive outcomes. We believe this term is limiting and positions social competence as being located only within the individual. A cultural-historical perspective study of social competence provides an alternative theoretical perspective, which we believe will provide new understandings and make an important scholarly contribution to debates on social competence in the early years.

References:


553. Concept formation in non-formal educational groups for children presenting school difficulties

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Vygotsky (1996) discussed concept formation, and criticized the assumptions of the traditional Psychology, based on formal logic, that concept were to be defined as an abstract mental structure, very distant to the richness of the concrete experience. He considered that the formation of a concept about an object was related to the verbal synthesis of a diversity of experiences. The author (Vygotsky, 2001) suggested the distinction between everyday and scientific concepts, the former related to the personal experience and the later, to formal knowledge acquired at school.

This relationship and mutual influence between everyday and scientific concepts, as well as its implications for teaching, was emphasized by Van der Veer (1998) and Hedegaard (1998). In a similar trend, Cavalcanti (2005) emphasized the importance of previous experiences in concept formation, and Oliveira, Chaves e Alves (2006) pointed to the relevance of group contexts, flexibility in the proposed activities, and organization of activities by the teacher.

This process is at risk with children with school difficulties, especially in the case of children with diagnoses related to organic problems. Their insertion in regular school activities is poor, and most of them are also in disadvantage in terms of everyday concepts.

One of the possibilities, in cases like this, is the organization of non-informal educational projects, conducted by multidisciplinary teams. A program with this characteristics was described by Batista & Laplane (2007), with activities developed in small groups of children with school difficulties, most of them with diagnoses of different organic problems. The weekly 90 minute sessions involve thematic projects, and try to foster different ways of participation in the activities, and to promote acquisition of knowledge and competencies.

The objective of the present paper is to present two studies about concept formation, in children presenting school difficulties (most with diagnoses of visual and/or intellectual impairment), in the context of the above described non-formal educational groups. The studies were approved by an Ethics Committee and the parents signed the Informed Consent Term.

The sessions were video recorded, and significant episodes were transcribed and analyzed (Pedrosa & Carvalho, 2005).

Study 1 – Animals

The participants were 12 children (8 – 13 years old), 10 with learning difficulties (2 of them with
low vision, most of them with diagnoses of organic problems) and 2 with school problems related to discipline.

The present report is based on the 5 sessions related to the theme “elephant”. The activities involved an initial dialogue with the group, aiming at the recovery of the experiences of the children about elephants. Then, information was presented, with the use of different strategies. The non-formal assessment involved two different games.

The analysis involved: a) comparison between the concepts presented by the children at the beginning and at the end of the thematic unit, based on the transcripts of the sessions, and b) significant episodes.

The comparison indicated that the children, at the end of the unit, presented different examples of the scientific information brought by the adults during the sessions. They generally explained the concepts in their own language, sometimes with phrases which were not completely appropriate in terms of formal language. This was considered as an indicator of apprenticeship, because they elaborated their answers, and did not repeat verbatim what was presented during the sessions.

One of the episodes, during the presentation on scientific concepts, was a dialogue in which the adult began with the affirmation: “The elephants live in forests, in Africa”. Then, she began to ask the children if they knew where Africa is situated. The answers involved “Brasil”, and “water”. The adult then began to explain, in a constant dialogue with the children, about the distance between Brasil and Africa, and about the ocean to be crossed. The children contributed with many comments about feasible and non feasible means of transportation, and about the duration of a trip by ship. At the end, the adult repeated that elephants are found in Africa, and also in another place – Asia.

The example illustrates the strategies adopted to keep children’s participation alongside the activities, and the role of the constant establishing of relations with daily experiences of the children, in the construction of new concepts.

Study 2 – Political Geography of Brasil

The participants were 7 children (9 – 14 years old), 5 with learning difficulties (2 with low vision, most of them with diagnoses of organic problems) and 2 with school problems related to discipline. Most of them had participated in Study 1.

The project comprised 16 sessions involving the presentation of information about political division: district, city, state and country. The activities involved the confection of maquettes, works with drawings, graphics and maps, search of sites at internet, always in dialogues which tried to establish relations between everyday experiences of the children and systematic concepts about political organization. The assessment of appropriation of concepts was done by the categorization
of the participation of the children during the activities, in terms of “complete understanding”, “partial appropriation”, and “lack of appropriation).

The analysis of transcripts indicated examples of appropriation of concepts, and also allowed the detection of persistent difficulties, which lead to the planning of a new project, with different strategies, also focusing on political geography.

One of the episodes, during the activities involving the first concept – district - was observed while the children were building the maquette of a district, using the elements they had already mentioned, with the guidance of the adults, as components of a district (houses, church, school, market, health unit, etc). During the activity, the adults were asking, again, about what can be found in the vicinity of the house where a person lives. The children answered talking about “trees”, “neighbors”, “cars” and “buses”. The adults kept asking about the main aspects which are present in a district (ex: “market”), trying to organize, in a systematic way, those institutional aspects.

In another episode, the adults introduced, with gradual hints, the concept of “city”, as a complex of districts. Then, they asked about the cities where the children lived (there were children living in three different cities in the group), and they answered properly, during the dialogues among the members of the group.

The difficulties were detected especially in relation to the concepts of “state” and “country”, and, as mentioned, suggested a new project, presently in the phase of data collection. The revision took into account the kind of difficulties detected, in the careful analysis of the answers.

The two studies suggested new aspects in the discussion of the teaching of scientific concepts, related to everyday concepts. It confirmed that this seems to be the way to “catch” children with experiences of school failure, and, generally, with low involvement and short attention span for school-like activities.

The role of the adults included multiple tasks. One of them was the planning of activities which would probably get the interest of the children, and which would make feasible the establishing of relations between everyday experience and scientific concepts. It was clear from the results that everyday experiences, related to the theme of Study 2 (ex: Who is the mayor of your city?), were very limited. Another task was to be attentive to the children’s manifestations alongside the activities, to decide the course of the dialogues and practical activities, in a way to keep contact with the children’s repertoire, and to expand it with the presentation of new concepts.

The two studies pointed to capacities of the children, which were generally not took into account in the regular school and in the assessment of the “disabilities’ of the children. The detection of those capacities, and the discussion on how to promote them has theoretical and practical implications, and suggests the continuity of the discussion of the topics presented in the present paper.
References


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The Cultural-Historical Activity Theory (Leont’ev, 1981; Luria, 1971) asserts that people can access new levels of development engaging in collaborative activities mediated by cultural artifacts. The zone of proximal development (ZPD) (Vygotskij, 1978) is the distance between the actual ability to solve independently problems and the potential ability to solve problems collaborating with adults or with more capable peers. Therefore, there is a qualitative change into the structural relationships and among psychological functions. When a new ZPD is accessed, new groups of psychological functions emerge previously not active. People internalize processes that take place in activities in which problem solving is guided by an interaction with adults or with more capable peers. Griffin and Cole (1984) conceptualize the ZPD as the contact that children have with their future. Lately, some authors (Eun, Knotek & Heining-Boynton, 2008), drawing on Bakhtin’s semiotics (1981), introduced of the notion of dialogicality and voice as responsible for the evolution of the ZPD. We recognize the value and the relevance of these conceptualizations and in particular we focus on: a) the concept of technology as cultural artifacts acting as a place for many voices to come to life; b) the Distributed Cognition Theory (Hollan, Hutchins, Kirsh, 2000) suggesting that cognitive processes do not reside in individual minds but are rather distributed among people and tools.

Research questions
The aim of our research is to understand how students, participating to a university blended course organized around complex activities both online and off line, access new ZPD. Therefore our research questions are:
- How are structured the cognitive processes supporting the access to new ZPD of university students participating to a complex learning experience?
- How does it change the way the cognition processes are distributed when moving to new ZPD?

Context and participants
This research involves students of a blended university course on E-learning. The architecture of the course is based on group-work and it is structured around five modules. During each module the same set of activities is repeated. Specifically, students carried out:
a) individual independent activities – such as maintaining personal e-portfolio, up-dating an self-evaluation sheet;
b) interdependent individual activities – such as writing critical reviews that will be read and
discussed by group-mates, or covering roles (for instance the e-tutor) designed to support the group work;
c) group activities – such as discussing about a research question, collaboratively writing texts and conceptual maps;
d) collective activities – such as preparing a final product, for instance a grid used to observe other on-line or blended course;
e) final individual independent activities – such as exploring online courses and filling out the grid previously prepared.
This set of activities strongly supports interaction at many levels (dyads, small groups, large groups) and the practical usage of what it is learnt. Therefore, students should be able to access new ZPDs through social, dialogical and material dimensions.
Two of the students attending the course during the 2009-2010 academic year volunteered to participate. Two Thinking aloud sessions were collected: one at start and one at the end of the course, for a total of 4 Thinking aloud sessions. Both students were female and they aged 24.

Data collection and analysis
Students received a protocol for producing verbal reports during the thinking aloud sessions. The protocol was prepared by two researchers and contained statements about the constant flow of thinking and the request to avoid selecting or suppressing thoughts. Students recorded the sessions at home by themselves so no interference from the researcher will appear. A first testing session was collected and used only to let the students familiarize with the technique. Participants recorded their sessions in front of the computer while performing activities connected to the course. The data collected concerned: 1) a session during the second module of the course; 3) a session during the last two modules of the course. All the recordings were transcribed using the Jeffersonian annotation code and they were analyzed through a qualitative Content Analysis. Two independent researchers first read the transcriptions looking for excepts relevant for the research questions and secondly, they outlined the dimensions able describe the process of moving toward new ZPD.

Results
By analyzing and comparing the Thinking aloud sessions collected at the start and at the end of the course we traced the nature of the processes supporting students access to new ZPD. Generally, it emerged that the process of accessing new ZPD is multidimensional since students always interweave at least two dimensions: the description of the activity they are performing and the reflection about their own cognitive processes. The multidimensionality of their reports is characterized by several components that differ depending on the activities they are performing and on at what stage of the course. Here we outline our results by presenting separately the first and the
second Thinking aloud session.

1) First thinking aloud session.

The first session was recorded when the second module of the course was active and students were involved into some small group activities. They were constructing maps, writing short summaries about how the group worked and they were discussing about the role taking. In both reports we found two dimensions: a) the description of the activity they were doing, and b) comments and reckoning about how and why they are doing it. Both dimensions seems to influence and enriched each other. Moreover, relational and emotional components were strongly present. The relational dimension implied a reference to other participants, but it did not seem to be related to the learning activities. In fact, references to the other people was not a resource to access to new levels of ZDP. Rather students show interest on building up and maintain social relationships as recreational dimension or to express emotions. The use of a technology new for them – such as the course platform - was often a topic and triggered negative emotions. Students at this point are focused on learning the sense and the functions of the new platform and their misunderstanding of this new technology or the malfunctioning of the tool cause a sense of failure. At the same time, the activities are performed combining and organizational level (what to do and how for the course) with an extra-course level (eating, answering to the phone, etc.). Therefore, in this first session both dimensions of thinking and activities are distributed through a net involving the context of the course as well as extra-course contexts.

2) Second thinking aloud session.

During the final session students were finalizing a collective tool. The all had to agree on a grid built using all the information delivered and discussed during the course, meant to guide observational activities on other online or blended courses. Once they all agree on the tool they had to use it individually by observing one course the teacher assigned to each of them. This activity covered the last two modules of the course. Again in the thinking aloud reports, we found the multidimensionality interweaving the description of the activity and the reckoning on the activities. Differently to the first session, now this interweave seems more focalized on the educational activity (producing, testing and using the grid). The relational dimension, instead, now implies references to other students perceived as more capable to perform the activities. Their “voices” are echoed and re-elaborated and treated as functional to the learning activities. Similarly, the platform and all the tools embedded into it (forum, chat, shared whiteboard) are perceived as useful for the activity. The recreational components are no longer reported and students appear to be very focused on the tasks and on the course in general. Therefore, the multidimensionality of the thinking aloud reports is confirmed but its nature differs: from a large multidimensionality, concerning also extra-
course activity, toward dimensions strictly focused on the course, allowing a more efficient students’ performance.

Conclusions
This research studies how students access new ZPD by participating to a blended course. We found the movement toward new ZPD is multidimensional and the nature of it changes over time. This study may contribute on the general understanding of the nature of ZPD and in particular on generating a more complete picture of what students think and do when they work online. In fact, during this type of activity students are immerse in a virtual environment populated by many voices and tools and, at the same time, they are working in solitude in front of a computer. A better understanding of how students handle this situation will help on improving educational contexts involving the use of technology at a distance.
Psychology has traditionally studied the artistic creation from a perspective of individual abilities or competences. According to this perspective, artistic creations have been considered a means of expressions of emotions, desires and fears. Artistic product and the personal interpretations of this are understood like manifestations of unconscious emotions or reflect of inner cognitive processes. In other sense, Vigotsky (1971) points out that art is a technique for the social expression of emotion and considers art like a social practice. We want to explore the creative process from this point of view. According to sociocultural theory we understand the creative process from a strictly social perspective. We focus on two levels of the creation process, within a microsocial level, we analyse personal interactions in the creation context (in our research a popular painting workshop) and, on the other hand, within a macrosocial level, we study the prevailing ideologies, discursive genres and values in the cultural and institutional context.

According to sociocultural psychology, we consider that the creative process has to be analysed taking the mediated action as analysis’ unity (Wetsch, 1991; Zinchenko, 1985). The performance of an action requires that the person uses different psychological resources at the same time, attention, perception, memory, reasoning, and external resources as tools, materials, instructions. Both of the resources, psychological and external, are interwoven by means our body, muscles and bones. Any analysis that doesn’t consider the action in this way, it would allow that part of the reality would be not analyzed. This analysis unity reflects the tension between psychological resources and social resources and includes both of them in the concept of action. For example, the use of the paintbrush, as tool to paint, revolutionizes not only the product of the action of painting (the paintings), but also revolutionizes our way to paint. We refer to the body’s movements and our motor capacities, which we need to use in order to utilize the paintbrush. Therefore, we affirm that the paintbrush mediates the painting action. In the same sense, our cognitive resources, for example, argumentation capacities, discourses stiles, knowledge of art history, are tools as well, and these cognitive resources mediate the painting action.

Amongst different socio-cognitive processes, we would like to focus on identity and memory construction. Particularly, we would like to analyse two actions. The first one is a novel action for the majority of the pupils of the workshop, the public exhibition of their works. We would like to analyse the repercussion of this action and how this action transforms the identity of the pupils. The public exhibition of their works is a very important experience for the pupils. The exhibition of the works elaborated during a year in the workshop is supported by the council. The exhibition is
inaugurated in an official event in the village.
The second one is the utilization of personal memories of the pupils like motives to elaborate pictures. In summary, the aim of this paper is to explore the influence of the workshop as scenery of activity in the process of reconstruction of identity and elaboration of personal memories of pupils.

Context
The workshop that we are going to study is located in a small village very close to the city of Seville (Spain). The workshop consists in different courses of draw and paint for adults. This workshop is organized by the village council of Gines that promotes formative plans for children and adults. The village of Gines is situated near Seville (11 kilometers). Gines has a population of 9000 people approximately. We can find in this village a lot of people who come from Seville and work in Seville. The number of these inhabitants is bigger than the number of person who was born originally in Gines. This fact is a habitual circumstance when we talk about big cities like Seville and villages that are situated around.

We are going to analyze the complete group of pupils (93 pupils). There are almost 80% of women and the 55% of them are housekeeping. We point out that 30-35% of these women only have primary education. Moreover, there are 10% of liberal professional with high qualification, 20% of civil servants and a 25% of university graduate in the group of pupils.

Workshops are organized in seven month long courses and are divided in eight groups of pupils. We can find pupils with a great experience in arts and inexperienced pupils in every group. In this way, the socialcultural structure of the village of Gines is represented on a small scale in every group. That is, during the course a lot of social relationships are created between person with many differences like levels of culture, formation and academic studies, experiences and economic and family situation.

The aims that we suggest to achieve with this course could be structured in five points:
1. To acquire some perceptive and manual abilities to create artistic works.
2. To know the resources offered by the different artistic technical. In this way, every pupil could use them like tools to create a personal language.
3. To make visual references and artistically experiences more rich and larges on a new way in order to enjoy with the contemplation and the creation of artistically works.
4. To know and to experiment some different artistic process of creation.
5. To promote analyzing and discussion abilities about arts.

The methodology that is employed in the workshop is based in individually attention and in interactions between pupil-teacher. The learning process is composed by a lot of stages or phases. But fundamentally this process could be structured by two great stages:
Collectives’ works. The same activities are performed for all the group of pupils. Principally these activities are performed at an initial stage. In this way, new pupils acquire and develop the use of tools to draw, to compose and to express with the colors.

Personal process. This phase is very special. The aim is to elaborate the personal artistic language. Now, the pupil achieves the theme or leitmotiv for his/her picture and the artistic technical to experiment. The picture will be elaborated from the reflections and the comments established between pupil and teacher. Therefore the verbal communication is so essential that we can consider it another tool to create.

Method

The method of obtaining dates was by organizing discussion groups, interviews and observation:
Discussion groups: Two discussion groups were organized with 5 expert members each one. The central question of discussion groups was: How has your participation in the workshop and in the exhibition changed the way in which you define yourself and the way in which other people define you?

Interviews with pupils: Eight pupils participating in the workshop were interviewed. Two of them were beginner and never had participating in exhibition. They were interviewed two times, before and after the exhibitions. Three pupils were experts, more than four years participating in workshop, and were interviewed about the re-constructions of their personal memories in dialog with the teacher and the artistic process in order to create personal motives for their pictures. The other three pupils were experts and were interviewed about how their participation in workshop had transformed their way in which they understand themselves.

Interviews with teacher of workshop: Teacher of the workshops was interviewed two times about the aim of the research, a month before the exhibition and a month after.

Observation: It was visited 16 different sessions of workshop previously to the exhibition. During the visit researchers talked with pupils and teacher. Also, researchers attended the inauguration day of the exhibition. During this event, they asked pupils in situ about the meanings of exhibiting personal works to the public in a formal event. Some conversations were recorded and it was written down notes in an ethnographic way.

The methodology used in this study was based on an inductive and qualitative approach within a phenomenological framework (Davidson, 2001; Lucius-Hoene, 2002). It was employed grounded theory to obtain the most important categories. These categories were discussed as validation method with teacher and pupils who participated in the research. Results were interpreted according to socio-cultural theory.

Results
The analysis of the data shows how the scenery of activity of the workshop, specially two actions analysed in depth, interacts with previous identity of pupils and transforms the way in which pupils define themselves and the way in which other people see them in the village. Beyond the acquisition of painting abilities, the workshop promotes the use of a particular discourse that affect the elaboration of the personal memories when personal memories are used to find motives or themes to the pupils’ pictures. This scenery show very important social and psychological consequence in the pupils’ life.
Research in teacher education emphasizes the urgent need for preservice teachers to be prepared with an understanding of the social context of schooling including the complex interactions of race, class, gender, and ability in K-12 classrooms (e.g., Cochran-Smith, Davis, & Fries, 2003; Hollins & Guzman, 2005). Drawing on Vygotskian (1978, 1987, 1994) theory, this paper reports aspects of a two year qualitative case study of four teacher education students over the course of their preservice preparation and their student teaching practicum in a teacher education program in the United States (Author, 1998). An explicit goal of the program was to raise the awareness of teacher education students on social issues, such as the effects of class, race, gender, and ability on the experiences in and outcomes of K-12 schooling. This study sought to document the “seeds” of critical consciousness (Freire, 1970,1973; Shor, 1992) as students constructed knowledge about teaching and learning over the course of the program. Data was collected using semi-structured interviews, document, and discourse analysis to situate the students’ experiences: 1) within the classroom context; 2) within the institutional context; and 3) within the context of teacher education reform. Constant comparative analysis and critical discourse analysis (Fairclough, 2003) of the data allowed for an analysis of language and discourse use over time, as well as conceptual organization regarding teaching and learning, and roles for teachers and students in K-12 classrooms.

Several conclusions emerged from the data. For example, the teacher education program did not take into account the context of teacher education, though it espoused the importance of context to the teacher education students. In addition, the program taught highly political and emotive content as if it was purely rational knowledge divorced from social and emotional aspects, rather than recognizing the irreducibility of the cognitive, social and emotional aspects of learning, as well as the identity work required, both cognitive and emotional, and the value laden nature of the program itself. This study highlights the importance of situating not only the work undertaken in the teacher education program, but also teacher education research more generally. In addition, it highlights the importance, indeed necessity, of integrating knowledge, identity, and values when teaching in and researching teacher education. These concluding thoughts are linked to a discussion of the effects of reductionism and dualism in education and teacher education in general.
References
The objective of this study was to analyze the process of development of a computer based educational material in hypermedia format named as “A Hundred Million Neurons” (CEMBI). The objective of CEMBI is to improve Neuroscience teaching and learning and to promote qualitative changes in Biomedicine undergraduate courses. In the present study we focused on analyzing interactions among participants as well as guiding principles, procedures, and organizational aspects assumed by Neuroscience and Educational Technology researchers, students, and technicians who were engaged in a multidisciplinary team with the common goal of this knowledge based artifact development in the University context.

As a socio-technical activity, Activity Theory framework (AT) (ENGSTRÖM, 1987) and Mwanza’s model for analyzing activity (2001) guided the study. AT offered the basic conceptual principles to understand the process of development of this educational material as an object-oriented-activity, immersed in a social and cultural context with subjects’ actions and interactions among them, and between themselves and their artifacts.

Based on the TA triangle (ENGSTRÖM, 1987), Mwanza (2001) proposed a six stage analytical framework: Stage 1 – Model the situation under study; Stage 2 – Develop the activity system of the situation under study; Stage 3 – Break down the system developed; Stage 4 – Generate research questions; Stage 5 – Conduct a detailed investigation; and Stage 6 – Interpret the results.

Stage 1 identifies in eight steps the components of the activity triangle (Mwanza & EnGeström, 2005): activity of interest; objectives; subjects; tools; rules; division of labor; community, and results. Stage 2 consists on the development of the activity system based on the identified components. According to Mwanza (2001), this process facilitates the researcher to focus in interesting areas for the analyses.

Stages 3 and 4 consist in the definition of subsystems, formed by an “actor” (subject, or community); a “mediator” (tools, rules or labor division); and an object(ive) that guides the activity. There are different forms of relationship among the elements. For example, the relation between subject and object may be mediated by tools, rules, and division of labor. These mediations may be developed having the community as main “actor”. Based on these relations, specific questions may be generated.
Stage 5 consists in investigating research questions and Stage 6 in results interpretation. Mwanza’s (2001) model provided the main orientation for conducting the study about CEMBI development, within the research corpora defined.

Once the activity system of the project CEMBI was defined, three research questions were generated with the objective to understand conceptual aspects and norms, procedures, labor division and roles, as well as work dynamics established within this multidisciplinary community (biomedicine and educational technology), working in the construction of an educational material: Question 1 – Which tools subjects used and how they were used to reach the activity objectives?; Question 2 – How did labor division and role played by subjects influenced the way they reached their goals?, and Question 3 – Which rules affected and how they have influenced subjects to accomplish their objectives?

As it was an ex-post-facto study, information sources were basically documents such as the CEMBI project documentation, team meeting memories and reports, emails and massages exchanged among team members, and intermediate products generated in the development process. After the first examination, the material was organized in the following information categories: “Projects” were different versions of the written project and grant application; “Research and Studies” were papers presented in academic events, students’ monographs, and CEMBI evaluations with undergraduate students; “Work Dynamics” included group meeting memories, emails, reports, messages, sketches, plans, development templates, storyboards, and “Products” included different versions of the hypermedia CEMBI.

Documentation analyses followed a qualitative approach through the method of content analysis (BARDIN, 1977). Content analysis provided a set of systematic procedures to infer about the conditions of meaning production and negotiation in this multidisciplinary process. These analyses were based on the main elements of AT (KUUTI, 1995): (a) “Subjects” are those individuals involved in the activity of interest (developing the CEMBI); (b) “Object”, the object of the activity; (c) “Tools”, are used in the transformation process, and they may be material or conceptual/symbolic; (d) “Rules” are explicit or implicit norms, conventions or social relations within the community; (e) “Labor division” is the way subjects were organized according to their expertises, knowledge of the tools, and relation with the object of the activity; (f) “Community” is formed by subjects that share the activity objective and the object.

Based on the analyses of the activity of the present study, it was possible to observe the coherence between principles and educational theories adopted by subjects when defining the social constructivist approach (VYGOTSKY, 1987) as the main theoretical orientation for developing the hypermedia CEMBI. Since this approach was not initially proposed by all subjects involved, but
mostly by the educational technology professionals, it was possible to identify different strategies, norms, and procedures for facilitating its dissemination and appropriation among all subjects in all stages of the development process. As it was a multidisciplinary community, the project dynamics was constantly dependent of interactions among subjects of different disciplines and teaching practices. Therefore, the CEMBI production was involved in intense negotiation, even though it was permeated by tensions and contradictions, and many times was submitted to questioning and revision. According to Roth (2004), contradictions trigger changes in the system and in the evolution of the activity.

Some important elements were also revealed when analyzing labor division in this project. As it was a research and development project involving different fields, it was possible to describe and to analyze forms of participation and collaboration, mutual influences among subjects from different backgrounds working in the same object, and roles subjects played according with their expertise and individual interests in the project. In this way, in the course of this process, subjects not only generated and shared intermediate products, but also “produced and reproduced themselves” (DAVYDOV, 1999) as members of a community. That is, “participation in the activity also produces and reproduces the structure of the community where individuals are essential elements” (ROTH, 2004, p. 4).

In relation to this research data set, it is important to emphasize the difficulty to gather, systematically organize, and to analyze all documentation available from different sources and in diverse formats. In this way, more than identifying elements of an educational hypermedia project it was necessary to articulate these elements and to reveal their characteristics and importance. This was possible with the orienting framework adopted (MWANZA, 2001). Even with some limitations, the available documentation was a rich data source about a complex process.

AT emphasizes the concrete conditions of human activity. But, while other approaches do not focus on the motives of subjects' constructive actions, AT proposes an hierarchical analysis of human activity, revealing means and ends, in a non sequential and non linear fashion, in the same way as it happens in the natural flow of a real project. Having the CEMBI development as the basic unit of analysis, AT has shown the human needs that motivated this activity and, therefore, it was possible to reconstruct this process history.

References:


562. Understanding student approaches to wiki-related course work using Activity Theory as a theoretical framework: findings from a longitudinal design-experiment study

Ilias Karasavvidis

1. Introduction

Web 2.0 technologies have attracted considerable attention over the past few years because they can support new pedagogical practices which center on collaboration and participation. Despite the undisputed potential of web 2.0 tools such as wikis, their application in educational practice suggests multiple challenges. For instance, research shows that student participation is minimal at best (Rick & Guzdial, 2006; Carr, Morrison, Cox & Deacon, 2007; Cole, 2008), on-line collaboration is limited (Ma, & Yuen, 2007; Ravid, Kalman & Rafaeli, 2008), and students' perceptions are not positive as they favor individual work over on-line collaboration (e.g. Carr, Morrison, Cox & Deacon, 2007; Ma & Yuen, 2008; Ravid, Kalman & Rafaeli, 2008; Elgort, Smith & Toland, 2008).

The research reported in this paper is part of a longitudinal, ongoing design-experiment project aimed to address the limitations identified by previous research (Karasavvidis, 2010). More specifically, the research project investigates the conditions for successful wiki integration in higher education and focuses on the design, development, and evaluation of a wiki task in the context of an undergraduate course. As the first version of a wiki task did not lead to the expected outcomes, the task was redesigned and implemented anew in a second design cycle. Despite considerable improvements in some dimensions, students' use of the wiki was far from optimal. These findings informed the further adaptation of the wiki task and its implementation in a third design cycle.

In all three design-studies the students complied with the task requirements but only at a surface-level. Similar findings have also been reported by other researchers (e.g. Wheeler & Wheeler, 2009; Dohn, 2009). Such findings suggest that students may use wikis but not in the way intended by instructors, an approach which essentially undermines wikis' potential for learning. The introduction of wikis into courses constitutes an innovation which disrupted student practices and created several tensions. To understand these tensions we turned to Cultural-Historical Activity Theory as a theoretical lens (Engestrom, 1987; 1999).

The present paper aims to examine the tensions which emerged in all three design cycles in a systemic way, identify the origins of those tensions, and consider measures for defusing them. More specifically, the paper draws on data from the three design cycles and addresses the following research questions:
(a) What are the main tensions which arise from the wiki integration?
(b) How can these tensions be conceptualized using Activity Theory as a framework?
(c) What measures can be taken to resolve these tensions?

2. Method

2.1. Context of the study, participants and design
The first wiki integration (1st design cycle) took place in the fall of 2007. During that semester, 38 students enrolled in an undergraduate course on Learning with ICT taught by the author in his parent institution. The course was compulsory and constituted an introduction to learning with ICT. The wiki assignment was a required one and included two main task components: (a) glossary and (b) FAQs.

Based on the outcomes of the 1st implementation, the wiki task was redesigned and a second implementation (2nd design cycle) took place in the fall of 2008. The study was conducted in the context of the same course taught by the author with 50 participants. The course included a required wiki assignment comprised of seven task components: (a) glossary, (b) FAQs, (c) historical dimension, (d) applications/examples, (e) interpretations, (e) lesson plans, and (f) software presentations.

The outcomes of the 2nd implementation were used to inform the 3rd design cycle the further modification of the wiki task. It took place in the fall of 2009 and 56 students participated in the same course taught by the author. The wiki assignment was required and involved five main components: (a) glossary, (b) FAQs, (c) applications and examples, (d) analysis of videotaped lessons, and (e) lesson plans.

2.2. Measures & Analysis
Both quantitative and qualitative data were collected. Data sources included log files, wiki texts, student surveys, group interviews, and informal observations. For the purposes of this paper we mostly draw on survey and interview data so as to identify sources of tension in the activity system in each design cycle.

3. Results
Data analysis indicated several problems resulting from the introduction of the wiki assignment in all three design cycles. While the measures taken in the 2nd and 3rd design cycles resolved some of the problems and considerably improved the wiki task, certain tensions persisted unabated even after the measures taken in the 3rd design cycle. However, our analytic focus here is on the fundamental problems which characterized all three design cycles. Overall, five main tensions were identified and are graphically depicted in figure 1.
First, the wiki integration introduced a contradiction within the object of activity which had far reaching effects for the course. Prior to the introduction of the wiki, the students were used to studying a set of authoritative texts. The introduction of the wiki entailed that students were expected to collaboratively produce a text. While in the former case learning was based on an authoritative (i.e. objective) text, in the latter learning was to be based on student authored texts, namely on subjective texts. Given that the students were very uncertain about the correctness of their writings, the tension of subjectivity vs. objectivity of the wiki information ran through the course in all 3 design cycles.

Second, there was a contradiction between the object of activity and the mediating artifacts used. More specifically, most of the students employed copy and paste strategies in drafting their wiki contributions. As a surface-level approach, copying and pasting actually led to the writing of very long and incoherent texts which at times were utterly incomprehensible. Thus, while the purpose of the wiki was to facilitate learning and mediate meaning-making, the copy and paste strategies adopted had an inverse effect.

Third, the tension between quantity and quality was a recurrent one. In their attempt to participate as much as possible and improve their chances of getting a good grade, the students opted for quantity and kept on adding information to the wiki. As a result, most of the wiki pages created contained long texts which were replete with trivial details. Much like copying and pasting, instead
of facilitating learning, the addition of minute details made the wiki difficult to read and understand. Fourth, there were conflicts involving the division of labor among the participants. By virtue of its design, the wiki required input from all students and would in fact be inconceivable without it. According to the student terminology, this input could be distinguished into “easy” and “difficult” texts. “Easy” texts involved the summarization of the information presented and discussed in class. As a rule, “easy” texts did not require any further reading as note keeping in class was sufficient. The students who contributed first to a wiki page were highly likely to write “easy” texts. This behavior infuriated all other students who complained that it was unfair because finding something to write would require further reading and more work overall.

Finally, considering that a shared artifact was to be created, the wiki required collaboration among students. However, striking a balance between collaboration and competition turned out to be very difficult to achieve. For example, even though collaborating online presupposed shared editing, most students in all three design cycles did not welcome any changes made to their texts by other students. Revisions were not well taken because of the common-sense implication that if something needs revision there must be something wrong with it in the first place. Consequently, while the wikis were meant to promote online collaboration, ownership problems related to grading persisted and undermined collaboration.

4. Conclusions

The introduction of the wiki significantly disrupted student practices. The students were accustomed to traditional modes of work and the dominant learning epistemologies which traditional practices define. At the same time, they were also unfamiliar with the specific approaches to learning and the associated learning epistemologies that the wiki tasks required. The Activity Theory analysis helped pinpoint the source of the tensions: what the wiki task demanded of the students on both epistemological and practical levels was largely incompatible with their previous perceptions and practices. The paper is concluded with a discussion of how the insights gained from this analysis can lead to further measures to resolve the tensions identified in the three design cycles.
Investigations of “remaining the same” as an active process in developing as a person

Pernille Hviid

Introduction

The argument of this paper builds on a postulate that is considered to be self-evident; namely that developmental psychology pays much more attention to novelty and change at the expense of children’s maintaining of themselves and their life-conditions. This investigation into developmental theory will aim to show that the prioritising of the novel at the expense of “the remaining” corresponds to societal expectations rather than to theoretical demands. A 12 year old girl’s narrative on her own development as a person will be presented which reveals that “remaining the same” is indeed an active process, and just as important as changing, in developmental processes. The discussion concerns the focus of developmental psychology: if it considers itself to be a science of human beings in service of the human beings it studies, it seems advisable to balance the attention towards novelty and remaining.

Developmental theoretical premises: processes, duration and functional experience

In line with strong voices within developmental science (Cairns, Elder & Costello, 1996; Valsiner, 1998; Valsiner, 2008), development is characterised as an active process of transformation and becoming in interdependent systems over irreversible time. In general, the developmental perspective is based on the axiom of becoming, which takes two forms (Valsiner & Connolly, 2003): “X – (maintain itself as) -> X” and “X becomes Y”. The first axiom is not the same as the identity axiom of non-developmental perspectives where X = X. Being is conceptualised as an ontological position, whilst remaining is a process of maintaining an emerged state of a system, and is thus an active process. Although ontological positions are thus dismissed from the study of development, an idea of one kind of identity is maintained. It is assumed that the phenomenon is still the same phenomenon, which has developed. If the changes of the system transform the system into another system, then there is no longer development. Thus the system as a whole maintains its identity in the process of development. In other terms, by a child’s ability to walk around and talk, the child does not become “another child”. So, the “remaining the same system” legitimates the idea of development.

Time: Clock time and Duration

Movements take time. Modern developmental psychology often posits a double conception of time. Along the “objective time dimension” it usually takes account of the cultural-historical time the child’s development is part of, and the timing of, for instance, different socio-cultural childhood arrangements (Schousboe, 2000; Rogoff et.al., 1975). On the “subjective dimension of time”,
developmental psychology often posits a fluid concept of temporality inspired by Bergson’s (1915) notion of “la durée”: here, subjective past, present and future fluidly interpenetrate each other and form a tangled experience of time very different from orderly linear timelines. According to the Bergsonian view of time, novelty preserves, and preservations generate the novel (Bergson, 1915). In an objective cultural timescale manner there are many repetitions (e.g. many Mondays in a school year) and also in Bergsonian time “maintaining” is fluidly and dynamically built into the developmental concept. As such, developmental system theory is geared to looking for both the processes of maintaining and the creation of novel aspects in the system.

Methodological considerations in developmental studies: The study of functional experience
When studying development, organisms are not seen as only reactive; they are active in relation to their environment (Valsiner & Connolly, 2003). According to Gottlieb (2003) this activity can, on all levels, from genetic activity to behaviour in socio-cultural surroundings, be investigated as the system’s experience with its environment. On only some levels of experience, it is obviously necessary to include the child’s personal experience with the process and, for example, the development of personhood. Vygotsky (1998) similarly considered experience to be the basic unit from which the interdependent developing relationship between the child’s personality and environment could be studied (Vygotsky, 1998, p.294). “Children’s perspectives” and experiences of developing as a person are therefore not merely built into present developmental psychology for “democratic reasons” (e.g. “Let the children be heard!”), but are considered as constitutive of developmental psychology.

Data
In the following section, data from interviews with 12 year old children will be presented. These interviews were conducted in order to gain insight into the development of persons, from a first person perspective. Maria is one of these children. During three 2 hour long interviews, she drew her “life-map” on a big piece of paper, representing places of importance to her life (e.g. kindergarten/swimming pool); structures, representing their connections; symbols, marking special engagements and names or drawings of people, animals etc. referring to people and animals etc. she considered important to her life. She described novel experiences and novel situations, she told about changes, ruptures, guidance she had received, conflicts and boundaries for her activities, and of most importance here, her strong insistence on remaining the same, as shown here in one short excerpt from the second interview:

Maria: (…) if I can work with animals I am happy (…) I would so much like to become a vet.
Interviewer: When did you decide that? It is a thought that projects far into the future.
Maria: Three years ago, I think. My friends; many wanted to be actors, but now two of them want to
be architects. But I want to stick with it. I will do all I can to stick with it (…).

“I will do all I can to stick with it”, Maria says, foreseeing an almost inevitable change, and explains further her strategies and reasons.

**Discussion**

From a theoretical systemic point of view, it makes sense that human beings strive actively towards remaining the same, and so do children. The lack of attention towards this strong aspect in children’s development can, from a system-theory point of view, create problems, since a developing system logically will transform and become another system, if only understood in the light of its changes. The forces towards the creation of novelty must be matched with some degree of maintaining; if not, the system breaks down (cf. Vygotsky’s notion of crisis in children’s development: Vygotsky, 1998, p. 194).

It could be argued that episodes do occur, where changes and breakdowns of old patterns completely dominate the life of a child, but the weight and attention the literature of developmental psychology in general offers to “the new” and “the changing” aspects of the developing child leave the reader with an impression of children in constant crises. This does not match children’s developmental experiences. Neither do children experience themselves becoming other children. Therefore, there must be a changing balance between novelty and maintenance. In periods of a high degree of change there must equally well be a high degree of maintenance, to keep the system from falling apart. I consider childhood in general to be such a ontogenetic period of high degree of change, and therefore a high degree of active remaining the same must be operating, e.g. through the routines of everyday life but also actively through the child’s self-regulation. (Valsiner, 2008).

**Perspectives (two will be mentioned here)**

- Remaining the same definitely connotates something “old-fashioned”, whereas “changing” is smart and modern, at least in Maria’s late-modern environment in Copenhagen. But one doesn’t go against the discourse of time, without any effort. Therefore her “remaining the same” is a much stronger indicator of her development as a person than her changes are.

- Whose perspective and experiences of development does developmental psychology take into account, in investigating a child’s development: institutions, in their need of changes, or the children’s themselves?

**References**


Developing female advocates for equity in science communities: A Socio-cultural perspective

Sarah Hug - Susan A. Jurow - Wendy Chi

Introduction

Science in United States contexts has historically been the domain of Caucasian/white males (Hill, Corbett, and St. Rose, 2010). With declining enrollments in science and engineering fields in higher education, efforts to increase student diversity have become not only an issue of equity, but also an issue of fulfilling the industry’s need for qualified candidates. Multiple programmatic efforts have formed to address the disparity in science and engineering by attempting to develop inclusive learning communities that support gender and racial diversity. In this paper, we examine how one such program focused on women in computing (FemProf), attempts to develop undergraduate Hispanic women’s academic skills and facilitate their entrance into the professoriate. The question that guides our analysis is: How do participants engage with the social, cultural, and relational resources that are a part of FemProf as they develop identities as future scientists? Our analysis focuses on the following conference themes: cultural diversity and processes of inclusion and exclusion, conditions and contexts for learning in educational institutions, and forms of participation.

Theoretical Framework

We take a social practice perspective on learning and identity development. From this view, learning is a process by which individuals gain expertise through participation in and identification with the social practices of a community. Through engagement in the community’s practices, an individual can begin to use and understand the target community’s “shared repertoire” or ways of talking, valuing, and using tools. Further, as an individual participates in the community’s practices, she can gain a sense of “who” she might become and what kind of a person she might be allowed to be as a member of the community. Gaining knowledge and skills along with taking on a valued and recognizable identity in the community are indications of successful learning.

Individuals’ learning trajectories in a community arise from multiple factors related to the community’s routine practices and the individual’s historically-developed dispositions and ambitions (Bourdieu & Wacquant 1992; Wenger 1998). The local community, or the specific group of people with whom a person is centrally learning a practice, constrains and affords different trajectories, or pathways, towards and away from more expert practice. The institutional context of a computing department, its program leaders’ views on the gender problem in science, and the
program’s curriculum are thus key resources for learners’ identity and skill development. Aspects of a community’s practice that have been found to create greater equity in terms of who participates and succeeds in the community include: (1) participation that addresses basic psychological needs (e.g., a sense of belonging and comfort), (2) communities that make visible the structure of the domain and the discourses used therein, (3) participation that includes trajectories for competence, or perspectives of more expert practice, and (4) communities that provide timely and flexible feedback regarding a member’s performance (Nasir, Rosebery, Warren, & Lee, 2006). How an individual engages these learning opportunities is not determined solely by the community’s practices. Instead, what an individual learns and the identity that she creates as she participates in the community is also shaped by her desires, values, and historically-developed dispositions (Holland, Skinner, Lachiotte, & Cain 1998). Because learning from this view involves transformations in knowledge and identity, attending to the community’s practices and the individual simultaneously can provide a fuller understanding of the learning process.

**THE FEMPROF PROGRAM**

FemProf was created to address the underrepresentation of Latina female students and faculty in the computer engineering and computer science departments at Island University (IU) and City University (CU). A short-term objective of the program is to increase the number of women who want to pursue doctoral training in computing. A long-term objective is to increase the number of female faculty in computing.

FemProf is designed to provide participants with opportunities to engage in academic computing research, participate in professional computing conferences, and work with mentors who are faculty in computing programs. These activities are supplemented by seminars designed to help participants gain entrance to graduate school and thrive as women in the male-dominated field of computing.

**METHODS**

In this study, we use qualitative methods of data collection and analysis to identify the learning trajectories that FemProf offered to participants and to analyze how participants used program resources to develop their views of themselves as students and future scientists.

The study focused on the FemProf program as it was enacted at IU and CU. At IU, participants are Hispanic and speak Spanish as a first language. Participants at CU are diverse in ethnicity and nationality—half of the undergraduates are members of underrepresented groups.

To address our research questions, we drew on data sources collected by the first and third authors as part of a formal evaluation of the FemProf program. Primary data sources include fieldnotes from participant observations and audio-recorded telephone interviews with FemProf participants.
First and third authors acted as participant observers in FemProf activities. They attended conferences with participants, observed selected workshops and meetings, and attended research symposia that featured FemProf students’ research. Fieldnotes focused on the intentional programmatic structure for equity and facilitating participants’ growing understanding of and expertise related to scientific research practice.

Telephone interviews conducted with each woman in each program throughout 2009-2010 asked students about what influenced them to major in computing, the challenges they faced as females in a male-dominated environment, their experiences in the FemProf program, and their future career aspirations.

We used a thematic analysis approach (Miles & Huberman, 1994) to analyze fieldnotes and transcripts of interviews. We identified three themes that helped us understand the process of participant learning in FemProf: “program support for professoriate trajectories”, “participant identification with engineering pathways” and a third theme we did not anticipate: “participants advocate for gender equity in engineering”. Using these codes as an entry point into the data, we identified interview excerpts that seemed to indicate a shift in the development of the women’s identities. Specific excerpts were chosen for analysis with an emphasis on understanding shifts in students’ dispositions towards science given how program structure emphasized development of engineering identities for FemProf participants.

**FINDINGS**

The FemProf community is one that highlights inclusion of underrepresented groups into the elite community of computing research. Specifically, the program: cultivates local communities of women in science in which more experienced members in the community describe and exemplify success in community practice and give details to young women regarding how community members are meeting (or not meeting) expectations. One way the FemProf community attends to students’ inclusion is through participation in a weeklong international conference for women in computing. At this event, FemProf students and some of their mentors attend professional development and technical workshops presented by women in their field.

Women in the FemProf program are discovering the ways they can engage in the engineering profession. FemProf made visible for its participants the steps toward developing elite identities as academic researchers and professors. Our analysis suggests that the young women intentionally took up these identities, through shifting aspirations towards academia and through their preparatory work towards graduate school. One participant described her change in perspective in this way:

“FemProf has helped me see more clearly what I want to do, I’ve come a long way because at first I
didn’t consider professorship as an option … After I graduate I would really like to become a professor, so it has helped me to define how I see myself in the future and how I define my career goals.”

Some women engaged in the FemProf program espouse a new awareness of gender inequity in their engineering fields and a desire to challenge it. Preliminary analyses indicate another way in which a local community’s structure may promote inclusion—by developing critical advocates for equity within the larger community of practitioners. Participants describe FemProf as a community that is addressing the gender disparity in computing and encouraging women to consider academic careers as a means for addressing the lack of female role models. A few participants are taking up these goals, and view their advancement in science as integral to reshaping the field into one that values and encourages women to succeed. For example, one FemProf participant stated she wanted to become a professor so that she would be in a position to attract more females to graduate school in her computing field.

Conclusion

The FemProf program is reaching its goal of increasing equity through providing a community in which female academic computer scientists are the norm rather than the exception. By attending to social, academic, and technical needs of women in computing, FemProf creates contexts for learning how to become a computing professor. Based on our qualitative analysis, we argue FemProf supports inclusion of women into the computing community, and makes explicit the pathway to the professoriate.
The necessity of mapping the poverty in Brazil is unquestionably urgent as we understand that it has social effects even in the identities of those who are not in state of poverty. That is, the poverty effects are responsible for the main senses that cross our daily lives, from the violence to the illiteracy. As researchers, we should raise social problems and bring them to discussion in conferences. Taking into account the introduction above, this academic work aims to present an analysis of a Brazilian documentary movie called “Estamira”. This work is inside a broader project called “Voices (in)famous: discourses of exclusion and resistance” which is part of a national project, with the title “The concept of family and poverty on streets: a critical analytical research of Brazilian context”. And, still, it takes part in the Latin-american net of discourse analysts that develop the program “REDLAB: extreme poverty in Latin America”. My sub-project has the aim to bring the voices of double excluded subjects: of poverty and of disabled or mental illness. The methodological framework is the French Discourse Analysis within Foucault’s genealogical studies of knowledge-power and resistance. In brief, discourse analysis methodology requires the examination of the social historical context within which the discourse is constructed followed by a micro-analysis of the texts. The description of the social-historical context, also understood as “conditions of production”, aims putting the social representations into focus, as well as the place occupied by the subjects in the discourse. After contextualizing the production of a certain discourse, the analyst concentrates on the properties of the discourse. Discourse is characterized as possessing constitutive heterogeneity, which implies that doing discourse analysis is fundamentally trying to find the interdiscourses that are at the interior of a certain discourse. On his way, Foucault’s studies try to analyze the mechanics of power, how it works in daily struggles, or what he calls the “micro-physics” of power. Before Foucault, the studies about power were interested in detecting and denouncing the other, the opponent: capitalism or socialism, for example, but these studies did not analyze the functioning of power. In this point of view, power is not only concentrated in the upper classes, the dominant ones. It penetrates the whole society, constituting itself as a diffuse bundle of micro-powers in the discourses of daily life. The author offers us three significant hypotheses about power: the first is that power does not exist as an a priori element, it is only conceived in practices or relations; the second is that power does not only work repressively but is also productive, it produces knowledge which produces more power; and the third is that
power does not apply only to macro-relations, but also (and mainly) to micro-relations. For the author, “there are no relations of power without resistances” (Foucault, 1980, p. 142). In this sense, Foucault’s strategy for studying power does not relate to the subject but to its historicization. Taking into account the discursive concepts and Foucault’s view of power and resistance, our analysis focuses on the way that Istamira, the woman that is the main character of the documentary, represents herself as woman, as mother, as mentally ill, as miserable, as taking her income from the landfill, as sexual assaulted woman, as abandoned by the husband. The movie Estamira brings the view of the other, the different, the strange, strange which is familiar at the same time. In a country, in a state, in a city, Rio de Janeiro, the wonderful city, dipped into a landfill, an ethical landfill, the “Gramacho” landfill can be seen as a metaphor of what we have done to ourselves in contemporary time. Istamira’s discourse denounces the social dichotomy in which we live nowadays. But, she, in her way, creates a discourse of resistance, she resists inside her own symbolic world: a schizophrenic one. Through the discourse analysis of her speech all over the movie, we can penetrate in her mind and see how and why she rationalizes her life this way: in order to run away from her woes. Estamira is us. Estamira is what we don’t want to see about us. The stranger inside us. This way, the research intends to raise new and unthinkable questions and make new ones come to the minds of readers. To look at the evidence, decentering, problematizing and questioning it. To look at what is familiar and make it strange. To understand without having to be told, to read between the lines. To disturb people’s mental habits. To reexamine rules and institutions. To destabilize the reasoning of ourselves.
This paper offers a methodological tool whose purpose is to frame Vygotsky’s theory of concept formation in a way that helps clarify his theory and shed new light on certain issues that have been debated since the 1930’s. It builds on Vygotsky’s broader theory of the development of the higher mental functions and his studies of word meaning and concept formation. This tool encourages researchers to ask new questions and pursue new lines of empirical inquiry.

In his final work, Thinking and Speech (1987, Vol 1, Collected Works, Plenum Press) Vygotsky described four major classes in the development of concepts, which he called “structures of generality”: syncretic formations, complexes, preconcepts, and true concepts.

This tool opens the possibility that there may be not one but two major kinds of “true concepts.” It also opens the possibility that adults may engage in a type of “syncretic” thinking with impressions.

Two interpenetrating processes in the development of word meaning and concept formation were discussed by Vygotsky in detail—abstraction, or the movement back and forth between abstracting and concretizing, and generalization, the movement back and forth between particularizing and generalizing. The proposed tool maps these two interpenetrating processes against Vygotsky’s four main classes of concepts.

The tool is a simple graph entailing two axes, one moving from the particular to the general, and the other from the abstract to the concrete. This generates four quadrants as follows – quadrant one is the “abstract particular,” quadrant two is the “concrete particular,” quadrant three is the “abstract general,” and quadrant four is the “concrete general.” Vygotsky’s four main classes of concepts map to these quadrants as follows - quadrant one, syncretic formations; quadrant two, complexes and preconcepts; and quadrant three and four, true concepts.

Following Vygotsky’s notion of the structures of generality, each type of concept, referred to as a “concept quadrant” in this paper, has its own special relationships between word meanings and their objects, its own what Vygotsky called relationships of generality, and its own set of possible mental operations.

This paper will suggest that in concept quadrant one, the “abstract particular,” impressions relate to one another in holistic and imaginative ways. Here the “proper name” reigns.

In concept quadrant two, the “concrete particular”, the properties of things are linked or associated in a variety of ways. Here, the “family name” is predominant.
In concept quadrant three, the “abstract general,” hierarchical classifications and other rule-based methods of making connections dominate. Here, categories along the lines of the law of concept equivalence described by Vygotsky for scientific concepts are the norm.

In concept quadrant four, the “concrete general,” real processes and objects in nature and society are the basis for concept formation. These are not merely rule-based, nor are these just associations of characteristics, as in “abstract general” and “concrete particular” concepts, respectively. Concrete general concepts are based on practical knowledge of and direct activity with actual processes. They incorporate the other quadrants but also transcend them. An especially important feature to emphasize about “concrete general” concepts is they are collectively developed, that is, they are products of culture and history, and may therefore be considered a source of “distributed cognition.” This is true of all the concept quadrants, but is especially important for concrete general concepts, which are based on the natural and cultural processes that form the basis of a given society.

This proposed methodological tool suggests that “abstract general” concepts map against many features of what Vygotsky called “scientific” or “academic” concepts. However, a major class of concept proposed by the tool, the “concrete general” concept, is not well defined in Vygotsky’s system. One explanation for this is Vygotsky’s work was almost entirely based on child development. This paper proposes the possibility that the “concrete general” concept can be found in adults. This possibility needs empirical research.

By drawing our attention to the “concrete general,” this tool has the potential for shedding new light on some of the debates and controversies surrounding anthropological, cultural and historical claims made by Vygotsky, and by his colleague A.R. Luria in his study of the cognitive skills of Uzbeki peasants in Central Asia in 1931 and 1932 (see Cognitive Development – Its Cultural and Social Foundations, 1976, Harvard University Press).

Another feature of this proposed tool and the “concrete general” classification is that they offer an expanded way to understand social, cultural and class experience in terms of adult concept formation, providing a direct link between the historical materialist analysis of class societies and Vygotsky’s theory of the higher mental functions.

This proposed tool also has potential application to Vygotsky’s work on word meaning and concept formation in the development of “speech acts,” an area of linguistic analysis that Vygotsky only began to explore. Moreover, this proposed tool opens new ways to explore the complex use of concepts and word meanings in speech acts that are produced in everyday adult activity and interpersonal discourse, as well as in “private” speech, or verbal thinking.

Many of what Vygotsky called everyday concepts, which he also described as complexive thinking and preconcepts (or pseudoconcepts), map against what the proposed tool calls “concrete
particular” concepts. This is the most clearly defined and understood area of Vygotsky’s research on concept formation. In contrast, he described syncretic thinking among very young children, that is, thinking in terms of impressions, but he never explored the possibility that this form of thinking itself develops through later childhood and into adulthood. This proposed tool, which maps syncretic thinking to “abstract particular” concepts, opens up a line of inquiry into this possibility.

Another line of inquiry this proposed tool raises is over the question of development within each of the concept quadrants. As a person becomes experienced in the use of concepts within a given concept quadrant, and especially if their cultural situation challenges them, they can become more conscious of their own skill development in a given concept quadrant. The question of development within a concept quadrant opens a line of inquiry that may be able to help researchers distinguish, for example, between everyday uses of rule-based thinking, such as common grammar and counting, which in theory can be found in humans since the dawn of humanity, and uses of rule-based thinking skills associated with modern schooling. This approach could help clarify some of the theorizing of Vygotsky and Luria in this regard, which tended to focus mainly on development between concept quadrants. Also important to explore may be development within concept quadrants.

All of the above proposed lines of inquiry point to the need for empirical research to explore the many possible hypotheses suggested by this proposed tool.

This methodological tool may also contribute to answering a call made by Peeter Tulviste in 1998 at the ISCRAT Conference in Denmark for a “taxonomy” of cultural behavior, activity, and the higher mental functions (see “Activity as an Explanatory Principle in Cultural Psychology” by Peeter Tulviste in Activity Theory and Social Practice ed. by Seth Chaiklin, Mariane Hedegaard and Uffe Juul Jensen, 1999, Aarhus University Press.)

The construction of this tool relies in part on insights offered by E.V. Ilyenkov in The Dialectics of the Abstract and Concrete in Marx’s Capital (1960, Progress Publishers). The methodological basis of the proposed model explicitly draws on the historical-materialist and dialectical-materialist approaches of Vygotsky, Marx and Engels. It is also influenced by many of the ideas in contemporary cultural-historical activity theory, such as those developed as activity theory and cultural-historical psychology by A.N. Leontiev and colleagues, and by M. Cole, S. Scribner, Y. Engestrom and others associated with the Laboratory of Comparative Human Cognition in San Diego.
Ilyenkov sharply argues against Ivan Pavlov’s idea of sygnalness (arbitrariness) of psyche in his recently published manuscript “To the notion of “human body””. His sentence to Pavlov’s theoretic approach sounds firmly and uncompromisingly: “HUMAN psyche treated from positivist and conventionalist (arbitrary) position… Hopeless Cartesianism without a tiny hint on Spinozian escape from the dead end in the comprehension of secrets of THINKING.” (Ilyenkov, 2008). There is nothing especially unexpected in this statement. It is known that Ilyenkov was sceptical enough about the expansion of Pavlov’s teaching into psychology. Less known is the fact that elementary logic demands to extend this diagnosis to so called cultural-historical psychology of Lev Vygotsky. Pavlov’s theory about the second signal system (1932) and cultural-historical approach of Vygotsky with his idea of mediation of the basic stimulus-response relation with arbitrary sign not only appeared in the same time but were based on the same mechanistic or “conventionalistic” logic. It's a matter of fact that Vygotsky who was eager to be a Spinozist could not accept Cartesian dualism and from the very beginning tried to find a way to overcome this dualism. But in the same time he never even questioned the very basic Cartesian idea – the idea about life as a mechanical, stimulus-respond (S→R) process, the idea of reflex circuit as the basic relation of each animal. As the majority of his contemporary he regarded S→R relation as something firmly established by biology and physiology. Thereby Vygotsky stayed blind to the fact that in the origin of his discourse he made an assumption that cancelled all his late attempts to find a way to freedom, that his train of thought unwillingly led him to qui pro qio, to substitution of the subject of his analysis. Instead of searching for solution of the problem of human freedom as “the central problem of psychology” (Vygotsky, ) Vygotsky in fact responds to another question, a senseless one: how “freedom” of stimulus-response automaton is possible? It’s easy to explain how wooden Nutcracker acquires a soul in Goffman’s fairy tale but it is impossible in real life. “Free” automaton means broken automaton, an automaton which needs repair or utilisation. We want to highlight that this qui pro quo is typical not only for Vygotsky but for the absolute majority of psychologists and philosophers both 100 years ago and now.

The first definition of psyche formulated by Vygotsky is the following: “the act of thought, the act of consciousness is in our opinion not a reflex, that is, it cannot also be a stimulus, but it is the transmission mechanism between systems of reflexes”. (Vygotsky). Vygotsky’s logic is evident: so far as a reflex or system of reflexes is nothing but mechanically determined respond to an external stimulus, it is something forced from outside and entirely not free. Thus we can’t be satisfied with a
reflex as an explanation of human psyche. Surely if we don’t equalize a human and a robot. Thus we have to remove reflex from our explanation or to assign it lowlier part which leaves a space for freedom. Vygotsky couldn’t reject the idea of reflex because he sincerely believed that it is a necessary structural element of scientific physiology and psychology. Unambiguously he declared that he entirely stays “Within the general relationship stimulus-response (stimulus-reflex), proposed by natural scientific methods in psychology…” (Vygotsky, 1982, p. 105). In this condition he had only to connect reflexes in the context of human thinking and psyche so that the very method of their connection sublated their determined, mechanical character and enabled us to escape being pulled by string wires of Nature and society and “master” our own behaviour. Vygotsky suggests conventional sign or so called “psychological tool” as such mediating link.

Vygotsky left us no doubt that a sign in his theory is a conventional, arbitrary sign. Thus he mentioned: “language, different forms of numeration and counting, mnemotechnic techniques, algebraic symbolism, works of art, writing, schemes, diagrams, maps, blueprints, all sorts of conventional signs, etc” (Ibid.) as examples of “psychological tools”.

And how does this sign enable us to master our behavior? Easily. With aid of old magic triangle of mediation which even now is very popular among CHAT psychologists. Vygotsky and Vygotskians put the relation, i.e. entirely determined, not free relation, in its basis while “cultural sign” which in some magic way is capable to interfere into causal chain of events in the basis of triangle in its vertex. This magic happens by efforts of “subject” which understands the meaning of sign and being inspired with it arbitrarily changes course of mechanical reactions. The only one thing remains obscure in this schema – where did this “subject” jump out of? How does an instance which can invent signs, understand their meanings and direct the bodily reactions appear in material S&R relation? Surely the idea of mediation with arbitrary sign can’t be taken as a serious hypothesis aimed to solve psychophysical problem because it is evidently inferior even to Descarte’s logic. If the latter had a chance to discuss the idea of triangle of mediation, he would probably say that the proposed idea is wrong and mediation is impossible because relation entirely belongs to “extensive substance”, while meaning of sign - to “thinking”. Meanwhile any interaction between different “substances” is impossible definitionally.

On the contrary, following Spinoza and Marx, Ilyenkov didn’t act on the premise that a human is a dead automaton, but he starts from a living, object oriented active subject – an animal or a human. In “German Ideology” one can read the following words: “The first premise of all human history is, of course, the existence of living human individuals.” (Marx, Engels). We can add that existence of living i.e. object oriented, active individuals is sine qua non premise of a psychological analysis. From the first look it can be regarded as something terribly banal, but we can’t help if this banality
is obscure for many.
The very subject, the subject per se, emerges where there is an object oriented activity instead of operations with arbitrary signs which in their turn need subjectivity and even more – human consciousness. To say that we deal with a subject means to say that we deal with object oriented activity, with active, reasonable movement of one material body according the form of another one. Just this mental train enables us finally to overcome the dead end of old psychophysical dualism. The act of thought or psychic act doesn’t start in Ilyenkov’s logic from external stimulus, and doesn’t finish in meaningless mechanical response. It starts from spontaneous directed to its object activity of living subject. In the beginning the act is inevitably abstract, because it inevitably starts from an abstract schema, given by Nature (innate) or acquired in the process of learning. But, being alive, this activity doesn’t break its object in conformity with its a priori schema, but facing the pressure of its object, it adjusts its first impulse in order to become similar to the form of the very object.

Does this process of activity or the process of thinking need mediation?
Rather! But we need it not for magical transition from mechanical relation to free human consciousness, but for transition from abstract life ( unicellular or elementary from of life) to life psychic. A living creature can’t practically act according the shape of its object, not acting actively in the same time according the shape of its own body, not relating to it. Try to anaesthetise your legs and say approach the fridge for a sandwich if you doubt.

Thus activity of creatures which have psyche has to be necessarily mediated by affect i.e. by relation to its own body, or by reflexive relation. The distinction of a human from an animal is that an animal can relate reflexively only to its living body i.e. to have selfsensation, while a human in addition can relate reflexively to its inorganic body which is opposed to him as an implement i.e. have self-consciousness.

It is even unnecessary to say that such a real mediation can’t be organized via conventional signs or signals which imply the very capability to arbitrary operations with signs (something like Hegelian Namengebungkraft) i.e. suppose a human consciousness before consciousness. This mediation can be organized only via material tools. Not an arbitrary sign but an implement plays a role of an instrument of idealization of the objective reality. That is the central idea that resulted from Ilyenkov’s Spinozian reflections. That is his fundamental impact to Marxist philosophy.
Thus Ilyenkov’s dialectical logic being carried through not only opens a possibility of scientific, i.e. monistic explanation of nature of human thinking, of his psyche and consciousness, his affects and his personality and finishes old false approach to understanding of life and psyche and sends popular paradigm to its proper place, to the junk shop.
576. Embodied mediation of a discourse task: Orchestrating multimodal discourse practices in amnesia

Melissa Duff - Julie Hengst

As Luria pursued sociocultural studies focusing on the disruption of functional systems, he did pioneering work on what brain injury (from stroke, head trauma, surgery, or disease) reveals about neurological structure and function as well as on innovative approaches to neuropsychological diagnosis and intervention. Although this work became well known in Western neuropsychology and clinical practice, it was taken up without reference to the full sociogenetic theories of Vygotsky and Luria. Taking up the threads of Luria’s project, our research program is grounded in sociocultural approaches to language, cognition, and development that reframe acquired neurogenic cognitive-communication disorders as disruptions in communicative practices within functional systems—a perspective that fundamentally shifts the unit of analysis from individual-with-deficit to the communicative practices of communication partners managing cognitive-communication disorders within target activities. Using hybrid ethnographic and clinical methodologies combined with close situated discourse analyses our work has focused on the communicative practices of individuals with brain injury (resulting in adult-acquired aphasia or amnesia) and their familiar communicative partners.

Through this approach we have begun to document ways that individuals with aphasia, despite often severe impairments in language-use, routinely orchestrate interactionally rich, engaging, creative, and meaningful discourse practices with their communication partners, including collaborative referencing (Hengst, 2003), verbal play, teasing, and humor (Hengst, 2006), reported speech (Hengst et al., 2005), and the pervasive, diverse use of conversational narratives (Hengst & Duff, 2007; Hengst 2010). Although interactions were filled with what could be termed “aphasic errors”, such errors rarely brought activities to a halt—and partners with aphasia were not the only ones to produce “errors.” Indeed, the partners with aphasia successfully deployed discourse resources (e.g., reported speech, narrative, and collaborative reference) that contextualized both typical and atypical (e.g., aphasic) productions.

We have also begun to document ways that amnesia (impairment in the formation of new declarative memories along with a loss of declarative memory acquired for some period prior to the onset of brain damage) disrupts communicative interactions, despite presumably intact language abilities. The idea that disruptions in memory alone can impact communication is not new—indeed Luria (1968) documented both the assets and costs of having the mind of a mnemonist. Such
findings suggest that the characteristic dissociation between language and memory is only half the story. Our research is designed to focus on the other half—that is, to characterize the interrelationship of memory and language in everyday activities and the patterns of orchestration of resources within goal directed activities. To date, through our analyses we have consistently found that individuals with amnesia have sufficiently preserved linguistic abilities to accurately produce such interactional discourse resources as collaborative referencing (Duff et al., 2006, 2008), reported speech (Duff et al., 2007), procedural discourse (Duff et al., 2008), and verbal play or creativity (Duff et al., 2009) However, the impact of profound declarative memory impairment is displayed as a restricted use of these resources (e.g., significantly fewer reported speech episodes) and as a disruption in the functional and interactive nature of the resources (e.g., fewer jointly produced episodes, play-conversations; difficulty shifting to the social stance of expert). Thus, we find that declarative memory deficits disrupt the flexible and interpretive use of a variety of interactional discourse resources in communication. Interestingly, though unsurprising from a functional systems view, these disruptions are observed not just in the individuals with amnesia, but also in the discourse practices of their non-brain damaged communication partners.

This current paper extends our work on the communicative practices of individuals with amnesia by presenting a multimodal analysis of embodied mediation (e.g., Alac & Hutchins, 2004; Goodwin, 1996; Norris, 2004; Prior & Hengst, 2010; Rosa, 2007), tracing the ways individuals with amnesia and their routine communication partners (e.g., children, spouses) engage in repeated trials of a game-like task. Adapting Clark’s (1992) protocol to examine collaborative referencing across repeated trials of a barrier task, we explored the development and use of referential labels across a series of communicative interactions in individuals with hippocampal amnesia and their routine partner (Duff, Hengst, Tranel, & Cohen, 2006). In Clark’s design, two participants, separated by a full barrier, worked on identical playing boards with 12 numbered spaces and used identical sets of twelve cards depicting novel shapes (i.e., tangrams). To complete a trial one participant would direct the other to place specific cards on specific numbers. We reconfigured this task to optimize success for individuals with brain damage (e.g., increasing number of trials, lowering the barrier to allow for nonverbal communication, using familiar partners). We also expanded the analysis by examining nonverbal and object-mediated communication (as well as verbal communication), by taking an ethnographic approach to the participants’ diverse practices, and by viewing all referencing as the product of the entire functional system (participants, materials, and practices). Specifically, our analyses will work to characterize the range of semiotic resources used by these pairs, the patterns of resource orchestrations that emerged across trials as pairs negotiated identifying and placing target cards and transitioning from card-to-card, trial-to-trial, and session-
to-session, and the complex lamination, or layering, of activities and semiotic resources within these interactions.

In our paper, we will first briefly set up this problem space by characterizing amnesia, describing the data set analyzed here (the six participant pairs managing amnesia and the 4-session barrier task protocol), and pointing to findings from the original study showing the striking success these pairs had both in completing the barrier task trials and in developing and learning labels for the target cards during this task (Duff, et al. 2006). We will then summarize the findings from our current analysis by presenting data on the range of resources and patterns of orchestrations seen across pairs. Finally, we will offer detailed analysis of one or two cases illustrating the nonverbal, verbal, and material resources that participants used to foreground (or background) the game activity, make specific references, and construct card placement sequences. Data illustrations will include both transcripts and video taped excerpts.
Middleton and Edwards (1990) have considered memories as social activities of remembering, reviewed works by Frederick Bartlett, and focused upon socio-cultural and interactional aspects of remembering. It was significant to criticize conventional memory studies based upon individual information-processing in the brain. Socio-cultural studies of remembering has shifted a paradigm of memory research from internal process of cognition to socio-cultural interactive activities on remembering. However, as Bartlett (1932) indicated, phenomena of remembering have two sides, that is, collective and individual ones. Though Middleton and Edwards (1990) emphasized collective remembering, remembering is not based only upon society or culture, but also upon his/her own lived experiences (Middleton & Brown, 2005). With a metaphor of a football game, we can analyse players’ activities as a team and find implicit and explicit rules there, and also focus on a specific player’s activity, which is embedded in his team’s activities. If you direct your attention to his play, you can observe his unique activities in the game. In a similar way, we can focus on personal remembering based upon socio-cultural activities.

From this point of view, we (Ohashi, Mori, Takagi, & Matsushima, 2002) analysed confession talked by the accused or testimonies of witnesses. Testimonies are interactive activities between a witness and an interrogator. We focused on one particular person’s unique remembering with an interrogator and tried to find personal formulations based upon social constructions. This specific person’s remembering has relation with situations and interaction with other people. In various cases, we especially analysed probable false charge cases. If we had been genuine social constructionists, we might not have been interested in whether they were true or false. However, we had to find characteristics of false confessions or testimonies, because attorneys usually asked us to give an expert opinion on whether confessions or testimonies are true or false. Concerning probable false charge cases, we usually don’t know the exact facts or the original past events. We also don’t know the “truth”. Without knowledge of the “truth”, we have to assess reliability of confessions or testimonies. Therefore, we have developed a method of assessing it. We paid attention to characteristics of interactions between an interrogatee and an interrogator and could find indefinite remembering. Remembering aiming at one's true past is oriented to his/her own lived past experiences. On the contrary, a series of testimonies are indefinite. Witnesses
respond to interrogator’s questions locally and change his/her words very easily. They adopt ad hoc responses.

In some cases, they played like important witnesses or criminals. Their testimonies or confessions are oriented not to their lived past experiences, but to becoming important ones. We could find processes of becoming an important witness in a series of testimonies. For example, a witness testified nothing at first, and then changed his testimony, in which he said he had seen someone. After that, he changed his testimony further and said he had found the accused accurately. Finally, he added ear-witness of a victim’s scream. In this case, as he had put a helmet on, he had to remove his helmet before ear-witness. In his testimony, he said he had felt an ominous presentiment before removing his helmet. This locus of remembering shows orientation to becoming a definitive witness.

In other case, the accused and an interrogator focused on different events respectively. Although the interrogator asked him how he had committed the crime, he answered questions incorrectly and kept his inappropriate answers. They couldn’t refer to the same past experience jointly. This type of discrepancy often occurs between intellectually disabled people and interrogators. This type of breakdown is concerning the most fundamental prerequisite condition of joint remembering including testimonies.

All of those cases indicate lack of orientation to lived past experiences. Even if we cannot approach other person’s lived past experience in itself, we can assess whether his/her testimony orients to lived past experiences or not. In other words, in spite of unknowbleness of exact original past, we can assess reliability of testimonies with examining a locus of personal remembering. In false charge cases, it is probable that nobody including researchers know what happened exactly. Therefore, we also don’t know the exact “facts”, but through this type of analysis, we can clarify whether testimonies or confessions fulfil requisites of accessing ‘veracity’ or not.

This type of analysis has some merits for discursive psychology/social constructionism. Firstly, we can treat not only collective remembering, but also personal remembering. We can focus on characteritics of one particular person’s interactions with other people. Secondly, we can overcome limits of social constructionism or the relativism. We can treat the problem of ‘veracity’ without lapsing into the absolute idealism. Finally, We can enrich studies in socio-cultural remembering further with notice of particular person’s remembering.
During initial teacher education, the practices have a great importance as a context that allows the student teacher to participate in a community of practice, in social relations that are taking place there and progressively appropriate the tools used by that community in order to become a member of a community of practice (Edwards, 2005). To develop and support these learning, the teacher educator and the university teacher, that have the tacit and the explicit knowledge, perform the supervision (Alarcão & Tavares, 2003).

The supervision aim is the professional development of the student teacher (Alarcão & Tavares, 2003) and can be defined as the process by which one search the regulation processes of teaching and learning between theory and practice (Vieira, 1993, 2006). Supervision should include interpretations of the needs identified by student teaches on their intervention contexts and from that point to help them developing on action their understanding of the complexity of practices (Edwards & Protheroe, 2003).

In Portugal the major practicum occurs during the last year of initial teacher education. It is a practical experience in which the student teacher participates at the context of early childhood settings, carrying out the same actions of a teacher educator, attends seminars with others colleagues, meetings, and other activities with the setting mentors and supervisors from the university, and have to do the same tasks like planning and evaluate, and construct a reflexive writing. From a sociocultural perspective, they are seen as mediating tools for thinking and action (Wertsch, 1998).

Two tasks developed by student teachers, who have participated in the study, involves planning and evaluation of their own action in the practice settings and writing “significant things” that happened in the practice’s settings. The first task aim is to internationalize and organize their action in the educational settings. The second aim develops reflexive writing about professional issues. Both tasks involves writing as an important mediating tool (Wertsh, 1998), and in some cases are shared with teacher educator and university supervisor in formal or informal meetings. This cultural support allows people to think beyond the limits of their everyday experiences and work in collaboration with others in order to build a new knowledge (Daniels & Edwards, 2004).

Around these tasks there is an asymmetric knowledge between the supervisor and student, which promotes opportunities to create zones of proximal development on which teachers with more
experience interact helping students build bridges between student's initial knowledge and the new knowledge through the negotiation of meanings.

Using a case study approach, we followed eight student teachers, and their respective teacher’s mentors and university supervisors at the last academic semester of 2009/2010 during supervision processes. The participants are three university supervisors, six school teachers and eight student teachers in the final year of the early childhood education teaching degree from three different universities. The data includes participant observations, semi-structured interviews and analysis artifacts (planning and assessment instruments, diaries, institutional documents) and triangulation.

The observations occurred in different join activities like tutoring meetings, seminars at the university with other students, practice context when the university tutor visits the student teacher for observation. Interviews were collected in two moments: one in an initial time of the practicum and the other in the final which involves all the participants. Documents were collected during the academic semester.

The data collected seems to indicate that planning and assessment instruments and diaries used by the student’s teachers, although have similar objectives and functions, are not used in the same way, and have not the same impact in their professional knowledge. It seems that its use is for same students teachers more like a purpose and not a mean of promoting their learning.

We will reflect and discuss what happens during the supervision process, particularly about how mediating tools (planning and assessment instruments and diaries) support or not the construction of particular ways of conceiving and applying professional knowledge by student teachers in mediated actions with teachers educators and university teachers.
Recently researchers have argued that in the last fifty years educational practices have gradually changed towards more open ended, inquiry based and collaborative ways of working (e.g. van Oers, 2008). During this time we have also seen a number of different pedagogical approaches that have build on Vygotsky’s legacy (Daniels, 2007). These different approaches have in part answered to the discontinuity between formal education and the lifeworld of the students raised by Resnick in 1987. However, the western-style school system is still under much critic for being closed to the influence and agency of todays children (Hubbard, Mehan & Stein, 2006; Sarason, 1990; Tyack & Cuban, 1995).

One indication of this is that children's funds of knowledge (Moll & Greenberg, 1990; Gonzalez et. al., 2005) are rarely acknowledged or valued as being relevant for school. For example, in a recent article Thompson & Hall (2008) argued that in England this is partly due to the national curriculum in which ‘skills and content are prescribed and a very particular set of knowings and doings are privileged’ (ibid, 100; see also Miettinen, 1999). Although teachers, school books and curricula hold sway over the dominant form of school-going activity this, however, does not prevent the children’s lifeworlds or out-of-school competencies from permeating the activity system. In their analysis Thompson & Hall showed how children’s funds of knowledge ‘leaked’ into school activities through different technologies, i.e. writers’ notebook, sketchbooks and stuffed animals, that created permeability between children’s out-of-school life and school. These leaks were not viewed as meaningful resources by the teachers nor taken up as pedagogical possibilities.

This study provides further conceptualisation and empirical evidence of these ‘leaks’ by building on van Oers (1998) interpretation of Leont’ev’s (1978) principle of activity development. In his analysis of children’s shoe store play, van Oers (1998) highlights how the play activity continually evolved and new forms of activity emerged. Van Oers (1998) called this process continuous progressive recontextualising. This study argues that a valuable part of this process is the incorporation of a personal, self-expressing way to do the activity which is important for interest and engagement in the activity (Nasir & Hand, 2008). As a result, the participants can have a sense of ownership over the object of activity.

Further, these ‘leaks’ can also be viewed from the viewpoint of Engeström’s (2007) conceptualisation of human agency as transformative actions. However, rather than arguing that
these ‘leaks’ permanently change activities, this study views that they contain the possibility to move from interest to engagement and from engagement to agency that breaks away from the dominant form of school activity. Hence, the leaks are more pedagogical possibilities for teachers to support children’s agency, than fully developed new activities.

On the basis of these theoretical tenets, this study hypothesises that children’s agency can be viewed as transformative actions taken by children in different situations (school assignments, play situations, etc.) by incorporating the children’s own way of doing the activity into it, by which a new object for activity emerges and children position themselves as actors and doers of their own learning. However, the new object is peripheral when looked at from the point of view of the dominant activity and thus easily not pursued further. Hence, these transformative actions can be characterised as ‘weak affordances’, that the teacher has to be attuned in order to foster children’s agency.

The video data for study comes from an ongoing investigation to the learning practices of a Finnish elementary class of 17-18 fourth grade students (age from 10 to 11 years) and their teacher. Of the 18 students, 10 were girls. The classroom culture was inspired by the sociocultural approach, the Thinking together approach (Dawes, Mercer & Wegerif, 2004) and the Fostering Communities of Learners approach (Brown & Campione, 1994). The data set was collected during the fall semester of 2008 during which the formal learning environment of the class was extended to include more informal settings i.e. museum, zoo, nature school and nature preservation area.

In the current study, weak affordances were traced and analysed from a video data through a progressive refinement of the outlined hypothesis (Engle, Conant & Greeno, 2007). This entailed that the selected episodes were scrutinised with micro level qualitative and interactional analysis (Kumpulainen & Mutanen, 1999; Jordan & Henderson, 1995), to ascertain the viability of the hypothesis and further elaborate it.

The preliminary results suggests that the concept of weak affordances presents a fruitful way to describe children's agency. Also, fostering children’s transformative actions is one way to build a more participatory pedagogical approach of dialogical inquiry. Further more, weak affordances to can act as pedagogical bridges between formal and informal learning environments in dialogical inquiry classrooms.
Learning and Identity Development among Community College Students

Eduardo Vianna - Naja Hougaard

This paper explores the links between learning and identity development among minority students in an American community college. Our overall purpose is to reveal the practical value of theorizing learning and identity development as ontologically commensurate processes rooted in collaborative transformative activities (Stetsenko, 2009) by using it as a tool to implement an emancipatory project based on critical-theoretical learning (Vianna & Stetsenko, forthcoming). This work builds on recent advances in cultural-historical activity theory (CHAT), namely the notion of transformative activist stance (TAS), which posits purposeful collaborative transformation as the common grounding from which learning and identity emerge (Stetsenko, 2010). Furthermore, we draw on principles of systemic-theoretical instruction (Arievitch & Stetsenko, 2000) in order to bridge students’ everyday (empirical) and scientific (theoretical) knowledge. Empirically, this paper draws on findings from a collaborative project in the context of a faculty-led student guidance group to which students actively contribute as they jointly construct a curriculum of learning activities geared to their developmental needs. This collaborative project provides the context for students to investigate their own learning and identity development as they master theoretical concepts from the social sciences and apply them to understand their own situation. Drawing on this activist project, which bridges CHAT and participatory action research (PAR), our aim is to contribute to emerging theorizing in CHAT on the links between learning and identity by revealing the practical usefulness of conceptualizing these processes in a unified, non-dualistic way. Our argument is that revealing the common grounding of learning and identity development in collaborative transformative activities represents an important step forward in closing the gaps between these phenomena, both in theory and practice. In a dialectical vein, this study attempts to concretely enrich the notion of transformative activist stance by making the case for its practical value.

Theoretically, this paper follows several interrelated principles of cultural-historical activity theory. First, our approach to learning and identity development follows Vygotsky’s famous principle that learning leads development and constitutes an important gateway through which cognitive and identity development proceeds. Second, according to CHAT, learning is viewed as a relational process situated not within the individual, but in a person's meaningful engagement through participation and transformation in socially organized activities and practices. Third, following Stetsenko’s recent reconstruction of CHAT based on a transformative stance (TAS), which conceptualizes learning as linked to identity in a much more crucial way than previously...
recognized, we view learning as “the pathway to creating one’s identity by finding one’s place among other people and, ultimately, finding a way to contribute to the continuous flow of socio-cultural practices” (Stetsenko, 2009). In this sense, identity development is conceptualized to entail one’s future orientation and the development of purpose in life, which is integral to the process of engagement in social practice and intricately connected to learning insofar as learning serves as the identity-making life project of participants who strive to find their place in communities of practice. Moreover, the dynamic relation between learning and identity is posited to be especially strong during the formative years of adolescence and young adulthood when the goal of developing one’s identity cannot be achieved outside of the learning activity through which one’s role and place in broad social structures and practices is established and ascertained (Vianna & Stetsenko, 2010).

Regarding the connection between theory and practice, this paper also discusses methodological implications of grounding the dynamic links between learning and identity in a transformative activist stance has. Specifically, this study seeks to examine how the transformation, through learning, of the participants’ epistemological stance necessarily also changes and transforms their participation in and contribution to the particular socio-cultural practices in which they engage.

Community colleges in the U.S. enroll a diverse population that consists mainly of minority, low-income students. Traditionally, those students have faced significant barriers to success, from need of remedial classes to personal problems. Not surprisingly, many fail to complete their studies, which is reflected in stubbornly poor retention rates. Thus, community colleges offer a wide range of services, from tutoring and peer support programs, to academic advisement and counseling. However, such services are usually provided in fragmented and poorly coordinated manner, as institutional practices typically separate learning from student life. Our contention is that insufficient attention to the bi-directional relationship between learning and identity development, still common to traditional educational and developmental theories, play an important role in maintaining big gaps in institutional practices. Based on findings of our research, we posit that such gaps are deeply implicated in students’ experience of disconnect from fellow students and faculty, as well as alienation from academic learning and institutional practices. Thus, our work attempts to bridge learning and student development by providing a site where students can actively and critically reflect on and seek to co-construct their own learning and development.

Informed by a dialectical understanding of the relationship between theory and research, this study has proceeded as an iterative process of data collection, critical revision of the methods used and development and refinement of tools for the research inquiry. Importantly, students have been increasingly involved in all phases of this ongoing process, which has been continuously conducted for more than a year with a group of 15 students. Centrally organized around weekly meetings, our
method includes the implementation of an array of collaborative learning activities, from critical readings to essay writing and group discussions. This work has allowed us to collect data on synergistic changes in learning and identity development, which were operationalized in a threefold manner by monitoring students’ (1) goal achievement and development (e.g., life goals, career goals, plans for graduation), and (2) academic performance (e.g., grades and self-reports on academic participation in the college), and (3) participation and positioning in the group.

The aim of tracking changes in students’ learning and identity processes was approached through the development of a comprehensive methodological framework that included the collection of (1) student essays, (2) semi-structured interviews, and (3) academic performance records, such as grades, attendance, and GPA, and (4) field notes written by the researchers after the weekly meetings. Throughout the project students were asked to identify their goals and future aspirations as well as their specific goals relative to their academic performance and engagement in college activities. Students were encouraged to reflect on their own emotional response to learning, such as their attitude and motivation. In sum, these conversations were expected to create a context for sharing and, consequently, monitoring the students progress, not only academically but also in relation to their lives, including as well as to their future aspirations.

An important early finding of this investigation, which was shared with the students and served as a platform to reflect on developmental needs and to design learning activities, was that students indeed had been experiencing a high degree of disconnection and feelings of alienation not only in relation to institutional activities but also regarding their peers and their personal lives. Typically students related to academic learning as only indirectly connected with their professional aspirations and experienced a constrained sense of agency in their courses, characterized by little engagement and feelings of being unable to participate in transformations of institutional practices. Thus, this paper will present how bi-directional changes in learning and identity development occurred as students’ engagement in this collaborative project gradually increased, including their growing ability to decide on the project’s goals and method. As a result, students began to develop their critical literacy skills and to simultaneously transform not only their standpoint in the group, but also more broadly, in their classes and in other activities outside the college. These results suggest that by formulating and shaping both their concrete learning goals in connection with their life goals, learning and identity development began to merge as students began to both transform their own standpoint – as a general world view - and to enhance their engagement with academic learning, as the latter became increasingly more meaningful to them. Finally, this paper makes the case for the potential of basing CHAT on a transformative activist stance, which assumes and emphasizes the agentive and transformative qualities of human engagement to contribute to the
development of progressive educational practices.

**Literature**


Proportional reasoning is an important form of mathematical reasoning. In a middle-school math curriculum, there are fractions, proportions, and percent; in physics, there are velocity, density, pressure, and power, to name a few; in chemistry – concentration; even in everyday life we meet speed, taxes, loan interests, cooking recipes, and so on. Each particular ratio concept turns to us its physical content as well as its proportional core. Various representatives of the ratio family require special treatment while teaching [Sophian 2007]; and school curricula allocate significant amount of time for them. However, studies are constantly demonstrating that most middle-school and even some high-school students have actual difficulties with these concepts [Kloosterman 2010; NMAP 2008].

The main feature of these concepts is the presence of two distinct quantities that form the ratio. Numerous studies have shown that this is also the main difficulty when learning. Authors that provided some learning procedures made a conclusion that teaching children to differentiate clearly between two parameters improved their ability to solve problems in each domain [Siegler, Chen 2008, p.444].

These days, psychologists believe that one of the most effective ways to improve instruction should be based on the Activity approach that can connect the sociocultural theory and educational practice [Arievitch, Haenen 2005; Engeström et al. 1999; Kozulin 2003]. Examples include such interesting ideas as the ‘hypothesis-experiment-instruction’ method [Wertsch, Toma 1995], various types of group learning and group discussions, ‘problem-centered learning’ [Wheatley 1993], manipulative models [Cramer, Henry 2002], and so on.

Our goal is to specify the types of activities that provide a correct construction and comprehension of the concept of ratio in the teaching-learning process. We use the Davydov’s approach, which is one of the most elaborated conceptions in the ‘Activity Theory’ area [Zuckerman 2003]. This approach provides a basis for reconstruction of the origins of a concept in material actions of students [Galperin 1989; Davydov 2008].

In our case, each ratio concept presents two variables forming the ratio. If we want to keep or change the value of the ratio, we have to be able to add or withdraw ‘units’ of each variable. According to our hypothesis, for a proper assimilation of the ratio concepts, students should construct for themselves the method to maintain or change the ratio. This method will be based on finding and using a ‘composite unit’ of the ratio as a special ‘building block’ to create a set of equivalent ratios. To introduce the students to the essence of ratio, we involve them into
construction of a system of object-oriented actions related to manipulations with a ‘composite unit’. We have implemented these ideas in two different domains. The first is the buoyancy problem which leads directly to the concept of density for 6th-graders [Vysotskaya et al. 2010]. The second is the paint thinning problem which is related to the concept of concentration and has been designed for 3-4th-graders. We have obtained encouraging results in each domain: the 6th-graders solved our posttest significantly better than even the 7th-graders who were taught an advance curriculum [Vysotskaya et al. 2010]. Results of the teaching experiment in 4th grade have demonstrated that the students have shown a high engagement level, solved all problems suggested to them, but, of course, we could not proceed to the regular concept of concentration directly with the students so young.

Each learning environment suggests manipulative materials to give students an opportunity to execute a ‘transforming’ action (term by V.V.Davydov) at the material level. In the ‘buoyancy’ domain, students should keep or change the buoyancy of a ‘vessel’ by adding or taking away units of weight (marbles) and volume (empty bottles). Students test their ‘vessels’ by immersing them into a water tank. In each problem, the students’ goal is to make a ‘vessel’ sink, float, or balanced. In the ‘paint thinning’ domain students should keep or change the color of ‘paint’ by adding some units of water (spoons) and paint (drops). Students test the color by painting a piece of paper. In each problem, the goal is to make the paint lighter, darker, or keep the same color with changing the amount.

Students work in pairs where each of them is assigned responsibility for changing only one variable – either weight (paint) or volume (water). In order to solve a problem, the students should coordinate their actions within a pair. Switching the roles in the pair allows each student to learn how each of the reciprocal variables works. A correct model of the object to be constructed includes both variables, as well as the effect each of these has on the object’s buoyancy or paint color. Appearance of this model is a first step towards the actual abstract concept of ratio.

The results of teaching experiments lead us to a specific ‘operational content’ of ratio that usually stays outside the instruction. The role of the operational content is to manage the students’ actions with the ‘composite unit’ of the ratio. This method should be constructed together with students at early stages as a system of object-oriented actions that allows students to solve the actual problem rather than seek for an ‘appropriate’ formula. Our experience shows that it takes time – more for some students and less for others – to internalize this long external method to a brief mental action. Based on our results, we give a general description of the very primary set of problems to aid students in the action building. At first, the problems that we give to our students support two basic notions: (a) it is possible to change the property (the buoyancy of an object or paint color) by
varying the number of ‘units’ of the variables; (b) it is possible to have the same property with different amount of the ‘units’.

The next important step is to figure out a ‘composite unit’ of the ratio. It is the smallest set of variables that maintains the property. At the early stages, this construction allows students to coordinate their actions to change the property. Later, the students realize that this combination can be used as a ‘tool’ for building a set of objects with the same property. In each domain, there are some specific settings: for paint thinning it is a distribution problem – how the ‘units’ of variables split if we divide the paint into a few portions and what happen to the color of the paint; for the buoyancy it is a problem about building another (smaller) ‘vessel’ with the same buoyancy.

To sum up, we formulate the following four primary stages of the development of student’s actions when building the concept of ratio: (a) changing each variable independently to reach a given goal; (b) coherently changing both variables to reach the goal; (c) coherent changing both variables to reproduce the result with different values of the variables; (d) proportionally changing both variables according to a ‘composite unit’ of the ratio.

An important question about students’ ability to transfer the general method of action from one domain to another remains open.

References


In this paper we argue that the notion of design is conducive to analyzing and developing learning and teaching. Our argument is based on activity theory (AT). To paraphrase Marx’s observation that “The philosophers have only interpreted the world, in various ways; the point is to change it” (1888/2005:thesis xi), we believe that for educators AT is not only an analytical lens for explaining phenomena, but can be used as a framework for interventions that can effect change in learning and teaching.

We first briefly discuss the term instructional design (ID), especially in connection with the advent of digital networks and Web 2.0 learning environments. Next, we summarize a couple of recent attempts at developing the concept of design from sociocultural perspectives. We go on to present two empirical cases from which we seek to develop our AT inspired notion of design and where we also draw on the German/Nordic concept of didactics as well as the Russian/Vygotkkyan concept of obuchenie, often understood to possess the dialectical relationship between learning and teaching.

ID (Reiser & Dempsey, 2007) with its roots partly in cognitive and behavioral psychology and partly in educational technology would not seem to agree with sociocultural assumptions (Grabinger et al., 2007). ID focused on monitoring and controlling the learner as well as the learning environment in order to bring about learning outcomes. The design has often involved specific modules or steps that ideally should have clear effects on the performance of the learner. Cultural tools such as e.g. textbooks, pen and paper, and calculators were considered instrumental learning aids. When computers gradually became integrated in the designs, an information processing approach to learning accompanied them.

With the advent of digital networks, multimodal representations, and Web 2.0 applications have resulted in increasing complexity (Luckin, 2010; Hauge & Dolonen, in press). At the same time, the literally infinite information available makes it extremely taxing for learners to navigate, select functional and relevant information, and make productive syntheses of sometimes contradictory fragments.

In the face of such complexity, meaning making – whether in a general sense as in personal development and social participation or in more subject specific contexts – does not emerge without assistance. Here we embrace the fundamental Vygotskkyan concept of the zone of proximal development and the significance of more a knowledgeable peer, but also later theorizing of the concept, extending it to hold more collective and dialectical dimensions (Daniels, 2001).

Some recent endeavors indicate that researchers as well as educationalists recognize a need to
develop designs for high-complexity environments, although it does not mean that a design can predict or prescribe how learners actually respond to the tasks or assignments they face.

Grabinger et al. (2007) seek to develop a framework for instructional design from a sociocultural perspective by focusing on “critical thinking, problem solving, research, and lifelong learning” (ibid.:1). They arrive at an extensive list of characteristics emblematic of designs for sociocultural learning environments. The authors conclude that, “This convergence of tools, practice and theory enables teachers and students to discuss, plan, create and implement unique strategies for providing instruction within a unique environment” (ibid.:6). However, they rarely move beyond well established, broad terms such as community of practice, authenticity, interaction with the environment, tools as mediators etc. The authors advise that, “Do not underestimate the importance of involving students in their own instructional designs” (ibid.:7), but it is not pursued in the paper. We return to this opportunity when we draw on the concepts of didactics and obuchenie in the final part of our paper.

Selander (2007) grounds his approach in a social semiotic view of learning: “Learning can thus be seen as an increased capacity to use signs in a meaningful way in a communicative context” and, “Learning consists of, in other words, a series of sign producing activities” (ibid., p. 167, our translation, emphasis in the original). He proposes a model that rests on three central concepts; interactivity, didactics, and design.

Didactics is for Selander, intimately linked to interactivity in physical or virtual space. Such designs can be seen from a tutor or application perspective, as preparations, but also from a learner’s perspective; how she negotiates her way towards understanding and how she tries to make sense of the signs she encounters on her way. Such designs holds material-technical as well as human-social qualities. Selander has made important contributions to the concept of design. However, Selander’s focus on semiotics seems to obscure the role and intentionality of the actors. As a possible consequence, his model does not seem to have collective motive, what in AT is referred to as the object. Thus, the direction and object of the transformations are not discussed or identified. Selander’s criticism of sociocultural approaches seems to overlook that AT focuses on exactly what he misses in situated perspectives: rules and conventions, division of labor, and historical development and expansion in general.

In order to make sociocultural aspects of design more visible we turn to two empirical cases. We first give a very brief outline of what happened in the two cases before we seek to identify problematic design issues that emerged.

Case 1, “Beslan”. A group of four learners pursued the question of what can be considered terrorism (Lund & Hauge, 2010). They sought to analyze what happened at School #1 (Sep. 2004) in Beslan,
Russia, where Chechen rebels after occupying a school were attacked by Russian troops, resulting in 344 dead. The object, trying to make sense of a seemingly nonsensical event, could not be constructed by consulting authoritative sources: The phenomenon was quite new, restricted to mostly online representations, and fiercely disputed. In sum, we could say that the object of the group’s efforts was to make sense of a phenomenon at the periphery of their existing knowledge. Throughout the two-week project period we (researchers) documented through video taping of the group’s endeavors how:

- The group struggled to make sense of contradictory information beyond their current understanding
- The use of artifacts (props for dramatization, web based material with affective content etc) threatened to replace the original object (making sense of the senseless) and become a parasitic object
- The teacher exercised only a subtle presence, leaving major decisions and final representations of the object to the learners.

- The outcome shows that the group through negotiations and exploration expanded their understanding of the object, but that they failed to share it with their classmates.

Case 2, Wikis. From 2005 and into 2009 we researched several classes making use of wikis for collaborative learning (Lund & Rasmussen, 2010). A number of unresolved design issues emerged:

- In networked, collaborative Web 2.0 environments tasks and assignments have to match the radically transformed learning environment.
- The teachers felt that the learners disappeared into separate spaces, that their product could not be identified, and (consequently) that what was to be assessed escaped examination.
- Networked Web 2.0 environments obscured what were individual contributions to a collective product and the relations between participants. The teacher was at a loss to follow up and give feedback to the individual learner.

From the studies above (Hauge, Lund & Vestøl, 2007), we see that in the networked society designs for learning require that we address phenomena on the periphery of our horizon, task-tool alignment, instruction as informed intervention and participation, analysis of the role of artifacts, and analysis of the relations between individual and collective contributions. Also, designs materialize at the juxtaposition of teaching and learning. Consequently, we see the concepts of didactics and obuchenie as vital when developing an AT induced understanding of design. Contrary to conceptualizing didactics as a response to the questions of what to teach, how to teach it, and why to teach it (networked environments additionally poses the questions when to teach and where to teach) we propose an AT perspective of Didactics with the following tentative definition:
Didactics can be understood as the design of social practices in which learners, teachers and (social and material) resources are configured and re-configured in activities that make knowledge domains and knowledge advancement visible, and that continuously create opportunities for reflective participation in such activities.

The Russian/Vygotskyan concept of obuchenie has often been translated as a dual activity; “teaching-and-learning” (Wells & Claxton, 2003, p152). It is linked to the zone of proximal development as bi-directional knowledge production involving the teacher(s) as well as the learner(s). What the original term does not make explicit, but which is vital in sociocultural assumptions of learning as well as in our conceptualization of design, is the role of artifacts – how they can be conducive to obuchenie – teaching and learning as a unified and dialectic entity.

To summarize, we argue that lessons learned from a series of case studies re-actualize the notion of instructional design. The increased complexity of networked learning environments require that we need to adopt context sensitive, dynamic and dialectical (e.g. individual-collective, teaching-learning) concepts found in sociocultural and activity theoretical perspectives.
Discourse in context, context for discourse: a Foucauldian-Vygotskian approach to semiotic mediation.

James Ma

1. Methodology

The philosophical orientation of Foucauldian-Vygotskian approach resonates with contextualism, post-structuralism and a priori logic. Endowed with the theoretical constructs of Foucauldian discourse analysis and Vygotskian sociogenetic analysis, Foucauldian-Vygotskian approach emphasises the interplay between discourse and context. From a contextualist perspective, context is constructed rather than pre-established entity that impinges upon individuals in terms of personality, identity, motifs and power relations. Context construction by individuals reflects ways in which semiotic mediation occurs in social, physical and institutional environments. Interwoven with context construction is the construction of discourse as ‘a patchwork of thoughts, words, objects, events, actions, and interactions’ (Gee 2005, 7). Thus, to understand how psychological activity is initiated and sustained through semiotic mediation is to examine the interplay of discourse and context.

Foucauldian-Vygotskian approach considers that two-way facilitation, exchange and enrichment between discourse and context capacitates the fusion of discourse-in-context and context-for-discourse whereby discourse and context mediate, renew and transform each other. Participation in joint action with meaning making through such interplay is of both motivated and indeterminate characteristics, enacting different identities on different contextual bases, and projecting the intertextuality of social discourse as an affinity with the notion of dialogicality (Bakhtin 1981) and that of multimodality (Kress 2010). Thus, the intertextual and multimodal nature of past, present and future discourse may be optimally unfolded, contingent upon mediation of the transformative function of participants’ dialogic engagement with signification by which signs are made within the motivated relationship of the signifier to the signified.

On methodological grounds, Foucauldian-Vygotskian approach falls within the interpretivist paradigm with the elements of a priori logic in terms of abduction through deduction. This approach permits recursive moves between the theoretical and the empirical with the intertwining of discourse-in-context and context-for-discourse as the unit of analysis. Such moves are considered to be beneficial in engendering wider conclusions, in that they allow theorisation of the phenomenon through interdiscursive interpretations across relevant disciplines as well as retain the wholeness of the phenomenon through narrative descriptions.
Fig. 1 shows the conceptual framework for Foucauldian-Vygotskian approach. This framework accounts for the notions of discourse and context being essential for an interdiscursive analysis of semiotic mediation. Fig. 2 shows the discourse-context dynamic of Foucauldian-Vygotskian approach. It is a mechanism used to operationalise the synergy of Foucauldian discourse analysis and Vygotskian sociogenetic analysis, i.e. Foucauldian-Vygotskian approach. Put another way, the fusion of discourse-in-context and context-for-discourse generated by this mechanism communicates the notion of intertextuality in human communication and representation, thus obtaining the complementarity of Foucauldian discourse analysis and Vygotskian sociogenetic analysis. (NB: Unable to It is attach the figures through the submission system.)

2. Example of analysis: joint action in building intersubjectivity

In this extract (transcript omitted due to word limit), the mother intervenes as Minnie reads along, reminding her of what has been read earlier – ‘Lima has been told not to eat the red, hot chilli’. She leads Minnie to enter into Lima’s world, pointing out that it is the red and beautiful chilli that distracts Lima from following her mother’s advice. By asking ‘why did she do that?’, she directs her to conjure up other’s feeling. Minnie grapples with the challenge in 42, exhibiting her ability to understand the mind of another. A mutual understanding is hereby established through perspective taking. The mother’s utterance ‘nice appearance’ heightens Minnie’s awareness, thus evoking her imagination and adaptation as in 25. Encapsulated with her mother’s utterance is Minnie’s representation ‘good packaging’ as her action to complement the mother’s intervention. This ‘manifest intertextuality’ (Fairclough 1992) whereby mother-child utterances explicitly draw on each other may pave the way for Minnie’s subsequent self-regulation as intrapersonal autonomy.

Intersubjectivity continues to proceed through social exchanges that ‘genetically underlie all higher functions and their relationships’ (Vygotsky 1981, 163). Picking up Minnie’s rhetoric phrase ‘good packaging’, the mother takes the discourse further by saying ‘good packaging can be misleading’. She points to an underlying message of the text that people should not judge things by their appearance in 45-46. This leads Minnie to see ‘good packaging’ as a subject matter in the storybook, with her mind being mediated to generate something new as experience extension. To encourage Minnie to express her own view, the mother’s follow-up probe ‘am I right’ is well received in 47. Minnie’s response in 50 and 52 indicates another level of intersubjectivity characteristic of ‘explicit mediation’ (Wertsch 2007), i.e. the mother’s intentional mediation to Minnie’s mind is woven into the ongoing flow of intertextuality. The follow-up interview extract (transcript omitted due to word limit) shows that mother-child signification derived from each other’s ‘interpretative repertoire’ (Potter & Wetherell 1987). For example, the mother values the idea of ‘talking about the society’ to the extent that her children are expected to learn to find their
own way of understanding the world rather than simply adopt others’ value positions. Throughout this episode, the building of ‘mutuality and interpersonal synchrony’ (John-Steiner 2000, 200) occurs three times, with an increased level of intersubjectivity each time through mother-child continuous involvement in the process of intertextuality whereby present discourse is not only informed by earlier discourse but also anticipates later discourse. This can be attributed to their active engagement with discourse-in-context and context-for-discourse. Intertextuality emerges from mother-child dyadic discourse where social language is mediated and transformed. The mother’s interpretation alongside prompts and questions facilitates Minnie’s action in extending her zone of proximal development. Her ‘nice appearance’ induces a hybrid utterance by Minnie; ‘good packaging’ alludes to the mother’s social language. This signifies an intertextual transfer of the mother’s argument to that of Minnie. At this turning point, the mother directs Minnie’s contribution in a developmental way. Her scaffolding action, initially as facilitating Minnie’s engagement with the discussion, is now shifted to that of providing an elaborative commentary to assist Minnie in advancing her own conceptual thinking.

The active involvement of the participants in reaching a shared goal of constructing intersubjectivity provokes the creation of discourse-in-context and context-for-discourse through mutual recognition. This is a cognitive process endowed with intellectual and emotional development as a result of sustained engagement in both la langue as a meaning-making system and le parole as the practice of that system in order to produce a meaningful sign. Based upon the recognition in each other of something of themselves, the participants are involved in meaning negotiation in multiple contexts constructed collaboratively. It is through the intertextuality of discourse that participants enact particular identities in particular situations in which the use of social language mediates the processes of psychological functioning, thus assisting in building intersubjectivity.

3. Conclusion: theoretical and practical implications

Sociocultural theorists have carried forward Vygotsky’s legacy by advocating a synthesis of his theory and their own empirical work on explicating the contextual foundations of human development. They emphasise learning as social in nature and cultural in origin – a process of perceiving, reflecting upon, and transforming knowledge and experience through socialisation and collaboration. Resonating with this view, this paper examines how interpersonal engagement with the ‘hybridity of funds of knowledge’ (González 2005) mediates and transforms human communication and representation. Placing a focus on a two-way outcome of learning, the paper demonstrates mother-child shared reading as a social and collaborative enterprise. The reciprocity of semiotic mediation exhibited in such dyadic discourse is maximised through joint action. The
relationship between discourse and context thus becomes mutually rewarding; context is established through discourse and in turn facilitates discourse. Such discourses confer power as ‘a whole series of mechanisms, definable and defined, that seem capable of inducing behaviours or discourses’ (Foucault 1996, 394). Operated through the discourse-context dynamic of Foucauldian-Vygotskian approach, the embodiment of discourse-in-context and context-for-discourse carries itself with self-revelatory forces by which discourses, as with contexts, are continuously reconstructed and renewed as ‘different ways of making sense of the same aspect of reality’ (Van Leeuwen 2005, 95). Therefore, Foucauldian-Vygotskian approach is of instrumental value in examining semiotic mediation through an interpretive analysis of the intertextuality and interdiscursivity of discourses encapsulated in the sociogenesis of human mind and activity.

Turning to the practical implications of this paper, within the UK, the valuing as well as encouraging of diverse cultural practices in education has long been recognised as assisting children’s social, intellectual development. During the past two decades, this has been reflected in a growing number of research enterprises seeking to promote social inclusion of minority-ethnic parents in their children’s education through home-school collaboration. Recent government policy has sought more explicitly to involve parents in their children’s school-based education. However, for parents not fluent in English, to liaise with teachers and assist their children’s learning can present a particular challenge. This paper addresses this modern issue through an interpretive investigation of mother-child dyadic discourse during shared reading of dual-language storybooks. The ways of parental involvement in reading described in this paper can have implications for developing approaches that minority-ethnic parents can use when reading with their children, alongside reading strategies that can be adapted for use by monolingual teachers and bilingual assistants in mainstream schools.
The aim of this theoretical paper is to draw attention to hermeneutics as a missing aspect in Vygotsky’s theorizing. It will be argued furthermore that hermeneutics is theoretically necessary in order to lay down foundations for a cultural-historical theory. Additionally, the missing places of hermeneutics in Vygotsky’s theory will be historically contextualized with regard to existing hermeneutic reflections elaborated by Vygotsky’s contemporary Gustav Gustavovic Shpet (1879-1937, 1918/1990). Though relying on Zinchenko’s (2007) analysis of Vygotsky’s and Shpet’s approaches, the framework and the goal of the proposed critical analysis are rather metatheoretical ones.

Vygotsky understood his project of cultural-historical psychology as a very demanding project in both theoretical as well as methodological sense. As demonstrated in his work “The Historical Meaning of Crisis in Psychology” (written in 1927, but published only in 1982 in Russian, and 1997 in English translation), which has the subtitle “A Methodological Investigation”, Vygotsky shared the view, expressed also by some other authors in the same time, for example, Karl Bühler (1927), that psychology as science was in crisis. Bifurcation of psychology into two psychologies- a natural scientific materialistic one and a spiritualistic one “expresses the meaning of the crisis more correctly than the thesis about the existence of many psychologies” (Vygotsky, 1927). After its “successful” inauguration by Wundt as an independent empirical science, psychology as science was at stake again. The crisis has shown that psychology has not solved fundamental problems of its subject-matter and methodology appropriate for its subject-matter.

It is from this historical and theoretical background that I consider Vygotsky’s cultural-historical psychology. In other words, I approach cultural-historical psychology from a meta-theoretical standpoint. The analysis will be led by the question in which ways and to which extent Vygotsky’s theory can lay down foundation for psychology of human subjectivity and activity. From this analysis it will follow that hermeneutic tools are missing and they are necessary in order to make cultural-historical psychology capable of understanding peculiarities of human subjectivity, activity and human world in general.

In the next step of the proposed analysis roots and sources of Vygotsky’s principles of theorizing will be examined.

When reconstructing Vygotsky’s theory and taking additionally into account Vygotsky’s self-confessed commitments, Marxism appears as a fundamental element and principle in his theorizing.
Contrary to some other interpretations (Veresov, 2005) I would claim that essential features of Vygotsky’s theorizing - his specific socio-historical approach can be fully understood within the framework of Marxism.

Historically, Marxism available to Vygotsky was Marxism before Economic and Philosophical Manuscripts were published in 1932. This of course had implications for understanding Marxism and Vygotsky’s reception of Marxism in developing scientific psychology.

At the same time, Vygotsky’s theory has envisaged new important pathways beyond the limitations of Marxism. According to Habermas’ (1968), Marx saw labor as a formative force of self-constitution of humankind, neglecting the other formative force, i.e. interaction. In ascribing interaction, and that symbolically mediated, the formative role in individual development Vygotsky clearly departed from Marx’ labor-centrism. But this departure was a kind of half-departure.

I would claim that Vygotsky conceptualized interaction having in mind labor as a model. A good example could be his famous statement “external means social”. But it should be said that external character cannot sufficiently define the specificity of the social. It is a kind of mechanical description. What is constitutive of the social are continuing interpretive processes. The same theoretical shortage can be discerned in the famous statement in The Genesis of the Higher Mental Functions that “the psychological nature of humans represent the aggregate of internalized social relations” (Vygotsky, 1981) All notions and metaphors Vygotsky used have remarkable mechanistic connotations.

It is at this place that hermeneutics needs to be included. Psychological nature of humans is of interpretive kind. Or, to quote a contemporary philosopher Charles Taylor (1985): man is a self-interpreting animal.

Another place where hermeneutics is missing is Vygotsky’s approach to the meaning. In Vygotsky’s theory meaning is regarded as a structural unit of analysis of the mind. It is of course very important that meaning has been ascribed to the mind, but meaning is not an entity localized in the mind. Meanings are constituted again and again in subjective intentional activities. Meanings are hermeneutic achievements; they presuppose and are products of understanding and interpretation.

After analyzing concepts and explanatory patterns in Vygotsky’s theory which require hermeneutics but were conceived of in non-hermeneutic terms, the next task of analysis will be to make the missing hermeneutics a subject-matter of a hermeneutic analysis. In other words the task will be to understand the meaning, the sense of missing hermeneutics in Vygotsky’s theory.

This question will be approached from a broader perspective, taking into account that hermeneutic ideas were present in Vygotsky’s intellectual and cultural environment. The most remarkable
example is Gustav Gustavovic Shpet, Vygotsky’s teacher and then colleague. Shpet published in 1918 a thoughtful work under the title Germenevtika i ee problemi (Hermeneutics and its Problems. It could be understood as a Russian parallel to Dilthey’s Die Entstehung der Hermeneutik (The Rise of Hermeneutics), published in 1900 and quoted by Shpet. There was another parallel too as Shpet also argued for a “conscious attitude toward sense …as the subject matter of psychology” (Shpet, 1989).

The problem of missing hermeneutics in Vygotsky’s cultural-historical theory can be formulated in terms of Vygotsky’s theory itself: hermeneutic ideas were present even in Vygotsky’s personal interaction (with Shpet), but these social relations were not internalized in Vygotsky’s mind. What were the reasons for that missing internalization? Were the reasons also in social relations? Or rather in interpretations of these relations?

Veresov (2005) is convinced that “for political and ideological reasons, Vygotsky was not able to even mention the name of Shpet, but he definitely was acquainted with his concept”. Veresov refers to Shpet’s concept of objective meaning, and sees parallel in Vygotsky. My point is rather that Shpet’s hermeneutic approach, and not particular concepts could have been a valuable tool for Vygotsky.

In conclusion it will be argued that hermeneutics is necessary for Vygotsky’s psychology defined as the cultural-historical psychology of human experience. Even more, hermeneutics is indispensable for any psychological theory as the subject-matter of psychology is of interpretive nature.
Sexuality, as a follow up to human subjectivity is inevitably present at school. It is overpassed by language subtleties and requires different approaches in order to enable this subjectivity to invigorate with freedom and autonomy. Literature, as a discursive space constitutes a pedagogical device that is really present at schools, which consist of a multiplicity of relationships, instances and subjects, where the teacher gets a prominent role. Perceiving the threads and knots in this discursive texture has become a challenging venture in the investigation that we have made in relation to the meanings upon sexuality and education constructed by teachers when they incorporate the literary book in their teaching.

In the perception of this discursive web we can mention the “pedagogical intentionality” accredited to “paradidactic” books (readings) that schools usually recommend in order to observe the concepts commanded by the National Curricular Parameters; - PCNs, official document distributed to all Brazilian schools. In the volume that deals with the themes of “cultural diversity” and “sexual education”, places in the 1980’s, the demand for working on sexuality: “[...] due to educators’ concern with the growing number of teenage unwanted pregnancy and the risk of HIV (AIDS virus) contamination among young people” (BRASIL: PCN, 1998, v.10, p.111), which justifies the insertion of sexuality as a subject in the curriculum.

The theme of teenage pregnancy emerges from these ideas proposal. However, we should consider that teenage pregnancy, a widely discussed fact nowadays, does not represent a new event, but it has always been present in the history of humanity. On the other hand, such fact, emerging from the concern with sexuality analysis, has gained notability in the openness to the subject control, enabling the access to the body and species’ life, consolidating the exercise of biopower over the population (FOUCAULT, 1979).

Nevertheless, school curriculum is central to the construction of differences and identities, rather than a neutral device which only focuses on knowledge transmission (conceived as facts, as information). This reference opens possibility for a better understanding of the problematic in school education, especially in relation to teachers, concerning the contact with new events. The belief in a possible essence constitutive of subjectivity which sustains the representation of identities permeates curriculum discussions as it finds confirmation in the hegemony of knowledge, conceived as scientific, where supposed rationality excludes the place of uncertainty and doubt.
This research, based upon Cultural Studies, focuses on Foucault’s assumptions and distinguishes the interface between Literature and Education fields. It takes into account that it would be necessary to have a focus on sexuality and gender in the material under study. The first step was to have a bibliographic review on themes that approached teenage pregnancy at the Fundação Nacional do Livro Infantil e Juvenil (FNLJ), in Rio de Janeiro – Brazilian section of the International Board on Books for Young People (IBBY). Initially, twenty four books were related to the issues of gender and sexuality, but after filtering them, the ones that were not directly related to the themes were removed and we had seventeen titles left, from which, ten were fiction books. In the books under study, we could observe the investment in frightening both male and female readers in relation to the consequences of a premature pregnancy. The narrative used to be a flow of tears, although it had a happy ending. During the exploratory phase of the research we perceived that these books have great circulation in both public and private schools. Along the research we clearly noticed that there is a gap between school teaching and its “ illicit ” texts and “ savage ” readings, as Chartier (1997) calls them, when referring to readings outside the school, in non-formal spaces of education. School readings usually reveal a pedagogical and useful character which focuses on a moral approach.

As we were facing this collection characterized by great published production, we deviated our attention to the teacher, who is normally the first reader and the one who is usually in charge of selecting the books which will be used in the classrooms. As we went further, we came across the following questions: how would the teacher conceive the student’s construction of subjectivity mediated by the literary book? How would the notions on sexuality and gender present in these materials be re-signified by them? And how would these books be used in these teachers’ pedagogical practice?

Before this difficulty in finding out which teachers would be using these books, we decided to “follow the thread of the book”, that is, finding the teachers through the publishing houses. This venture offered us a wide panorama as we were able to have nine interviews in eight schools in different neighborhoods in the city Rio de Janeiro and in Caxias, a district in the state of Rio de Janeiro. Interesting facts arose from the interviews: The nine teachers, eight female and one male, had been teaching for about 15 years and were about 35 years old average; only the teachers of Portuguese and/or Literature were using these books in their classes, which means that there is no transdisciplinary work with other subjects; and the three books used by the nine teachers were all written by the same author, Júlio Emílio Braz:

Aprendendo a viver (Learning to live) tells the story of a family who gets united to face several dilemmas: the mother who discovers to be HIV positive, contaminated by her husband; one of the
daughter’s unexpected and premature pregnancy and the rejection and prejudice of society in
general.
Um sonho dentro de mim (A dream inside of me) describes the trajectory of a 17-year-old girl who
finds out, through her boyfriend’s suicide, her HIV contamination. The unexpected pregnancy in
this plot leads to a succession of problems faced by the main character until the happy ending with
the child’s birth.
Anjos no aquário (Angels in the fish bowl) shows the story of Tina, pregnant at 16, who, being
rejected by everyone around her, considers abortion as a possibility. Among the main results found
in this study, we emphasize the use of such books as tools once teachers’ appropriation of this
material attributes to them univocal meanings on sexuality and teenage pregnancy. The meanings
are closed, silencing the overflowing of subjectivity, once the discourses and actions that take place
inside a framing that determines what can be said and what should be interdicted. Although the use
of literary books as instruments, characterizing them as mere pedagogic resources, we consider that
the teaching investment in evoking the issues of sexuality in their classes, even without a demand
expressed by the curriculum, presents a recurring advance, once the theme could have been easily
silenced, which makes us believe it deserves future research investments.

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Writing to unlearn

Writing can promote our understanding of the world, others, and self; it can also create relations between them. The acts of speaking and writing are different in terms of our voluntariness (Vygotsky, 1978). When we write something, we consciously control the way to write. For example, while writing, we can ask ourselves questions such as “What should be written?” and “How should it be composed?” Writing also helps us to be more aware of our referred contents. The voluntariness can be a source to unlearn because our voluntariness can move us beyond unconscious understanding of the world. Learning scientific concepts also requires the voluntariness. In order to discuss the relationship between writing and voluntariness, I propose the concept of “to unlearn.” To unlearn is defined as the psychological state in which we reflect on any given knowledge and re-organize our body of knowledge. In this presentation, I will discuss how writing can serve as a device for unlearning in the school or other social organizations.

Traditional writing instructions in the school

Teaching and learning writing in the school contains a risk of making students fall into verbalism (Vygotsky, 1968). The traditional instruction of writing in Japanese schools tends to focus on spelling letters, grammatical construction, and textual coherence. This type of instruction brings strong attention to the wording but not too much to the content. This type of writing instruction in the school often leads to a poor cognitive tool mediated action in classrooms. In other words, students’ compositions can be full of shallow ideas because they consider it a school task that they need to complete, which does not prepare the students to observe the world, others, and themselves.

I now introduce an example of how traditional writing instructions in the school can lead to “poorly” written texts through the case of a language learning class which I studied. In the class, the goal was not to understand the world with words but merely to learn the words. The teacher in the classroom instructed the students to write false things without feeling those thoughts in reality. The students tended to use the composition as a good answer sheet, which was to be evaluated by the teacher. The following excerpts show the brief composition that two students were asked to write using the names of three colors: blue, red, and white (Ishiguro, 2003).

Student X: The sky is blue. It is comfortable. The blood is red. It is dirty. The white horse is beautiful.

Student Y: The sky is blue in winter. There are white clouds. They sometimes become cumulonimbus.
The written text in the writing class is often not the “medium” that students use to talk to or discuss with each other but only demands the learning of word usage. In the above example, the texts composed by the two students were minimum answers with no real content. Each text lacks coherence among sentences. The deficiency in these “indicative characteristics” in the written text can link to the vagueness of an addressee. The writer of daily letter addresses a specific person, and then the content is corresponding to the relation between them (Bakhtin, 1986). In the traditional school writing instruction, students often experience difficulties in judging the actual addressee. Students have an addressee but the addressed person is not the actual teacher that have a unique character but the generalized teacher which evaluates the writing task.

Writing to unlearn in the school: Two examples and three principles

I now examine the cases in which students write to unlearn and propose a question: What produces difference between rich or poor wording in writing? In this study, I examined the conditions for fostering an instructional environment for writing to unlearn. In the conference presentation, I will show two cases of Japanese schools and examine theoretical issues regarding writing to unlearn. The first example is taken from the writing classes in the first year in a primary school and the other example is taken from adult literacy classes where “illiterate” individuals restart the learning of writing in many years after abandoning it.

With these cases, I will discuss the theoretical and practical implications for writing instructions. In the two cases which I will introduce in the presentation, writing instructions contributed to creating ideal learning environments for writing to unlearn, in which writers produce rich contents. By rich contents, I refer to careful examination of materials from multiple points of view. Through writing, writers come to be aware of novel meanings to their understandings of self, others, and the world. I will discuss three essential principles for writing to unlearn through the cases of two writing instructional settings.

First, daily practices including everyday discourses were served for the source of development of writing and self. Writing materials were filled with each writer’s idiosyncratic experiences. When the writer refers to everyday discourse, he or she spontaneously pays attention to the relation among persons in the discourse. The writer should select the items in writing process. This conscious selection of writing materials promotes self-examination and everyday discourse.

Vygotsky (1978) claims that “writing should be meaningful for children, that an intrinsic need should be aroused in them, and that writing should be incorporated into a task that is necessary and relevant for life” (p.18). When students can project their everyday experiences into their writing, the writing becomes meaningful and provides an opportunity for the students to promote their
understandings of self, others, and the world. Teachers in schools can promote students’ deep understanding through connecting everyday discourses to school discourses, without differentiating between them. Through exchanges between the two discourses, everyday discourse can be re-mediated through school discourses and vice versa (Cole, 1996). Furthermore, students can unlearn things that they believed they had already understood through writing.

Second, collective appreciation of writing works empowers a writer. Both teachers in the two cases made the writing a collective piece. Writing in the traditional school often focuses on only an individual trajectory of the cognitive effort. But when the writing is shared among the classmate and other audiences, the piece of writing can be appreciated by colleagues and other readers. In this process of sharing, writers themselves along with writers’ story can be empowered. To produce a collective autobiography leads to creating a collective Zone of Proximal Development (ZPD) (Gutiérrez, 2008). Reporting the personal history to colleagues is important especially for the “illiterate” individuals in an adult literacy class because they tend to feel ashamed. In the class that I observed, those illiterate individuals often expressed the pleasure to be appreciated by others. Writing can mediate the relationship among the teacher, students, parents, and others and thus they contribute to constructing collective ZPD for participants in the writing class.

Third, the goal of writing instruction is linguistic knowledge but the instruction focuses on fostering communication with others. When the linguistic knowledge is the priority, students are instructed to pay careful attention to the usage of linguistic items. This type of writing instruction places students in the powerless position. One teacher in the adult literacy class insisted that grammatical corrections often take away vivid expressions of the writer. Writing “development” can be thought of as the similar process of acquisition of speech as communicative tool. In the process of spoken language acquisition, parents usually do not correct the mistaken usage of language. But children can learn the grammar of their own language. The process observed in two cases of writing instruction was similar to this process of spoken language acquisition. Through the communication over writing, a writer can gradually come to acquire linguistic knowledge. Thus, we should think the value of writing beyond its linguistic correctness and appropriateness.

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Our goal is to discuss some results of a qualitative study which aimed at investigating, from the perspective of the cultural-historical postulates, the training of young readers in the lower classes of São Paulo city. They became readers in very adverse conditions, which was thus considered paradoxical. We sought to understand such paradox by answering what fostered subjects’ interest in reading, whether the frequency of access to printed material and its quality were relevant, whether and how frequently subjects interacted with more experienced readers and where such interaction took place.

Becoming a reader in the most impoverished layers of the Brazilian population is highly unlikely. According to the most recent quantitative study on readers’ behavior in Brazil, the most important influence for one to become a reader is exerted by one’s family (Cunha, 2008). But most Brazilian families have a very low schooling level and are not immersed in environments that foster literacy. (Soares, 2004). Moreover, there is a "perverse relationship between income distribution in the country and the conditions of access to reading". (Idem, p. 24) The school, in turn, is still struggling not only to fulfill its role of training readers (Cunha, 2008), but also to bridge the gap between it and the students from the lower classes (Sposito, 2008).

Despite those adverse conditions, there are a few rare and paradoxical cases of readers in the lower classes. To understand those exceptional cases, we investigated what significant interactions with reading, with the text and other readers contributed to the development of reading practices. Besides a theoretical study, based on the postulates of the cultural-historical theory (Vygotsky, 1984, 1993, Luria, 1990; Vygotsky & Luria, 1997) and also the contributions of a number of other contemporary authors (Valsiner & Rosa, 2007; Wertsch, 1994, 2002, 1985, 1993, 1999), in dialogue with the fields of sociology and the studies of literacy, we conducted an empirical research, which consisted of interviews with thirteen readers, aged 17 to 31, who were users of a small community library in a neighborhood with an extremely low Human Development Index (HDI). We selected subjects who declared they had read at least five books over the past twelve months. The readers’ parents were illiterate or had a very low schooling level. Despite having been subject to severe restriction of access to printed material, those thirteen subjects became readers, who read a wide range of texts, including very complex works of human sciences and literature. The library, which works in poor material conditions, was founded and is managed by a group of rappers who are also activists of a social movement organization.
When trying to explain the exceptional cases of readers in the lower class, common sense often resorts to innatist views, which attach little importance to the role of the mediation of the teacher and the school for training readers. In the cultural-historical perspective – which values a lot the role of the other, the sign and culture as mediators of the relationship of the subject with the world – education, schools and teachers play a key role. (Rego, 2003).

However, given the innocuous or negative nature of the Brazilian school for the development of a significant relationship with knowledge and literacy in the lower class (Charlot, 2005), it was necessary to investigate other socialization processes besides the family and school and, more specifically, to ask what alternative possibilities of developing literacy in activities not directly related to school those young readers had.

Previous works such as Oliveira (1995) indicate that the type of work subjects perform (not a very mechanical, but one or one that demands planning and decision-making) as well as the engagement in political activities (for example, being an activist in civil society movements) can foster the development of typically literate ways of thinking even among individuals that are out of school.

Another alternative path of literacy development has to do with the rap style group. Identified with its themes, which cover the condition of being black, young and excluded (Sposito, 1993), young rappers may develop practices of reading comprehension, analysis of intertextual references and may even write their own raps. In São Paulo city in particular, rappers often engage also in political activities and in projects of social transformation that require planning and decision-making.

The results of our investigation evidenced that the reader constitution process of our subjects was not homogeneous, linear or mechanical. On the contrary, the paradox of such constitution in adverse conditions was possible thanks to singular configurations of interdependent factors that contributed to the genesis of the interest in reading. Among such factors were: the development of a positive relationship with knowledge and of a self-image of excellent student; reasonably frequent access to printed material and its high quality; the entertaining power such material had, especially during one’s childhood, one’s identification with the theme of some works – especially with the social conditions of their protagonists - and, on the other hand, the exotic characteristics of other works, which led the reader to envision other possibilities of life, and most importantly, the opportunities of interacting with more experienced readers, which confirms the key role that culture and people play in the development trajectories, as expressed in the cultural-historical perspective.

Most of the subjects who had the chance to interact with those more experienced readers during their childhood and adolescence in their family, at school, and among neighbors and friends or in the rap style group became readers during their childhood and adolescence. That is, they had already become readers before starting to visit the community library. The other subjects, who did
not interact frequently with more experienced readers or did it very rarely during their childhood and adolescence, did not develop reading practices until they were around 17, when they met those more experienced mediators in the library community. In the library, besides having more access to printed material, they were not only encouraged to read but also given symbolic resources to read increasingly more complex texts. They also started working on social transformation projects, and such jobs favored the development of a meaningful and pleasant relationship with knowledge.

In general, our research confirmed some of the conclusions of previous studies on schooling and readers’ training, which highlighted the importance of enjoyable and meaningful reading practices, of the interaction with more mature readers (who are interlocutors or model readers) and of the quality of the mediation performed by those readers, in which cognitive and affective aspects are complementary. Our investigation evidenced that – contrary to what common sense innatist views assume – the paradox of becoming a reader in very adverse conditions did not depend on inborn characteristics; rather, it was due to the subjects’ active appropriation of literary culture thanks to skilled and captivating mediations performed by more experienced interlocutors.

The major distinction between the results of our investigation and those of previous studies is that, for most of our subjects, interlocutors and model readers were not members of their family or school teachers: they were the subjects’ peers in the rap group and/or the mediators in the community library. Some of the subjects even stated that the schools they attended, rather than fostering, actually hindered their reader training, given those schools’ material precariousness and inappropriate teaching practices.

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The analyses show that being ‘middle class Indian’ disposed and also ‘positioned’ a parent in a certain way in relation to ‘mathematics education’ and its value for the offspring. Being ‘good at mathematics in school’ reaffirms their identity as ‘being good Indian children’. Additionally, their success in this project of establishing that their children have the status of being good at maths and so ‘very Indian’ seemed to be further enhancing the value of the parent as a migrant and an Indian in a foreign country that might in other ways (e.g. linguistically) tend to disenfranchise/marginalise them. Among the middle class Indian parents, the strongest drive was to help children develop faster mathematical and reasoning skills so that they clear the entrance tests for some of the best schools like Grammar school, Manchester Girls School etc. This according to them help their children acquire the necessary social and cultural capital to move up in the social and economic ladder of the UK society. This also help the children stay away from the non-state activities. The talk between the parents in the temple premises, social institutions like MEAs, Gandhi Bhavan etc. show clear discursive embedding of the value for higher school achievement and mathematics. The interviews with the parents revealed that the certain professional spaces like engineering, medical sciences, hard sciences etc. are more fair and accessible than the professional spaces like art, theater, media etc. which are typically White dominated. It requires longer time and more struggle to get oneself established. This could be one reason why Indians preferred to tread the routes where the entry appears to be more fare and less competitive. The emphasis on Mathematics in the country of origin, i.e. India helped them achieve the dual objectives achieving better social and economic status and using it as an identity marker. The observation data of Quick Math and Vedic Math classes and the mother-child talk analysed using Bourdieu’s practice theory revealed the internal logic of these practices that get established in reaction to the accessibility of various academic, political and institutional spaces and the host country’s perception of their children. Many social-cultural spaces like MEAs are used for collective activities as well as academic achievement. Along with creative activities like dance, art, music, the parents also organise quick math and Vedic math classes.

On the other hand, this same dynamic acted in the reverse direction for working class parents who ‘did not do well at school’ and were therefore threatened by a lack of linguistic capital for cultural/national reasons. The school then became the site to develop capital perhaps from
interaction with others at school. Unlike Indian Immigrant families, the Bangladeshi parents emphasized learning of English more. The parents’ status within the family field were sometimes undermined by the children for not being successful resulting in the relations between the positions within the family becoming critical. This was evident among the Bangladeshi parents who often pushed their daughters for higher education and didn't mind the sons to drop out of school in class 11 or 12 and join their family business. As the daughter leaves the parent's family after marriage and go to boy's families, such a threat within family becomes less.

The comparison of Oral work in the families reveal that the Indian families not only engage their children very early in literacy practices, but also emphasise Oral mathematics more than their Bangladeshi and British counterparts. However, the difference between the middle class professional families across the racial/cultural categories is minimum as compared to families from low socio-economic background. The low income Indian families still emphasise literacy practices including numeracy practices more than their counterparts among the Bangladeshi parents. This could be because of idealised strong literacy and oral traditions in India and their tendency to compare their children's achievement and socialisation with their cousins and relatives in India. The emphasis on the oral mathematics help the Indian Immigrant parents establish a link of them to Vedic traditions which in turn define them as authentic Indian. In other word, the pride in one's culture of origin, strong collective processes and the desire to enhance the symbolic and cultural capital among the children resulted in developing early intensive pedagogic work in Indian families compared to their Bangladeshi counterparts.
Although studies on gender issues and education in Brazil are recent, they increased from the nineties, schooling of children based on gender differentiation has been at the core of societies and over all historical time. In many of them, educational policies and social practices are based on the position men and women take within society. However, how does this phenomena come to exist in schools, how do children become part of it, and what can be done in education?

This research investigates children's conceptions about gender relationships and the role schooling practices, especially the ones concerning evaluation, take on defining boys and girls social experience in school. Through a sociocultural constructivist approach, the goal is to identify semiotic processes regarding gender relations within school experience in children’s narrative.

Empiric work design comprised four group focal sessions with fourth grade students—five girls and four boys—from a public elementary school of Brasília. The first session counted with all nine participants. The second one was done with boys only and another, the third, with only girls. The last session reunited all of the children.

A piece of literature was used as a tool to mediate participants talk and interactions. Research issues were previously planned and organized in a script. Besides reading and talking about the text, other activities also allowed children to express themselves about the issues.

We used a hermeneutic qualitative methodology to analyze communicative interactions. Analysis gave emphasis to contradictions and conflicts. Results show that gender power relations emerge within participants narrative (objective information) and (inter)actions, and became the largest issue among participants, boys and girls. According to narratives, gender power struggle is a part of school experience since early age. Semiotic aspects from Brazilian collective culture about gender issues emerged through diverse ways.

Mostly, participants relate men to the public domain and violence, and women to domestic affairs and caring social roles. Content stressed the asymmetrical positions of gender relation while interaction entailed power struggle expressed by men’s control and women’s victimization. However, by focusing on meaning emergence, development and change, issues about gender social stereotypes from the collective culture changed its meaning and position throughout the dialogues and activities.

Contradictory positioning was also found, particularly in relation to classroom experiences and evaluation, for children experience a fair treatment by their teacher which fostered the sense of justice and equity. The set of violence, provocation and power struggle, gave space to a cooperative
and agreement dialogue about school practices and evaluation.

Focal group methodology was productive as a setting to investigate participant—children’s—perspectives on their own experiences, especially because they were able to integrate multiple negotiating strategies and discussion themes, and shared interesting statements and reflections. At the same time, focal group a context for in-action observation of negotiations.

The story as a mediating tool integrated activities and enabled participants express themselves facing the diversity meanings and asymmetric situations very close to children’s experiences: (1) adult-child relations (father and son; professor and student); (2) relation between highly academic competent student and less competent student; (3) inter generation relations and, finally, the most proeminent of all, (4) gender relations. The story was selected due its variety of semiotic marks that are part of children’s daily experiences and are part of their culture development. Also, characters share participant’s same age.

It was interest to note, however, that participants did develop some identification and share semiotic marks about gender relation with story and among their life experiences. And discussions between boys and girls were quite conflictive on that matter, although meaning negotiation was very dynamic. But, all of them criticized school practices from the story.

Analysis suggest that relations, actions and conceptions of self and of others, use culturally stereotyped female and male concepts only partially. When they reflect about its meaning and face peers in the opposite side, personal opinions tend to open to new meanings. Indeed, equity discourses happened only when discussing about school practices and shared an ethical dispositions. That revealed the position they assume face learning, performance, and academic development.

The positive disposition towards school learning and discussing relations within the space of this school specifically is related to the promotion of alternatives to dominant culture by giving emphasis to auto-evaluation processes and collective self and peer assessment. Schools can offer possibilities of new ways of interpersonal relations emergence, which the base for equity.
The rapid pace of technological change, characterising the end of the twentieth century and the beginning of the twenty-first, leads towards the rise of what Lister et al (2003) call ‘upgrade’ culture. Computer related hardware and software products become parts of continuous ‘upgrading practices’ and, as such, the notions of ‘computer’ or ‘media’ become reconstructed as technologies in flux. In this way the computer, along with varied forms of digital media, are easily seen as non-fixed, non-achieved or non-stable pieces of technology. Instead, the very notion of ‘computer’ and ‘technology’ pinpoints to continuous cycles of innovation and renewing. In mathematics education, the emphasis on ‘new media’ choice continues to be placed on specific software environments that support the learning of particular mathematical content. As such, digital tools for dynamic geometry, computer algebra, data handling, statistics, programming and modelling aim to encourage the development of specific mathematical skills and competences within the boundaries of certain curriculum areas (see Hershkowitz et al, 2002, Ruthven et al, 2009). Teachers, at large, experience the intensity for change as mediated with the ‘newness’ offered by computer hardware and software. The sense of the ‘new’ becomes a reference to the most glamorous recent and carries the ideological sense that new equals better. The ‘new’ signifies ‘the cutting edge’, the avant-garde, the place for forward-thinking people to be as designers, producers and practitioners. Discourses of ‘change’ as connotations of the ‘new’ are related with long-lasting modernist belief in social progress and development as smoothly delivered by technology.

The present paper discusses how secondary mathematics teachers invest on discourses of ‘change’ as part of their professional development trajectories. The paper is based on a micro-ethnographic study and focuses on a small group of maths teachers who are trained to become teacher trainers for technology mediated mathematics. Based on analysing ‘teacher narratives’ through interviewing and extensive participant observation, we claim that their professional development paths envelope both desiring and disrupting identity change. The micro-physics of their school everyday lives requires a simultaneous appropriation and resistance of computer-based regulatory discourses about ‘change’ that leads towards unending, fluid and fragmented identity formulations.

The research study is part of a larger ethnography (in-progress) concerning how a small group of 11 teachers (7 maths teachers and 4 language teachers) narrate their professional ‘development’ as they learn to become teacher trainers for computer-based mathematics. The research study took place in
the context of implementing a specific teacher training course for technology in mathematics education (see PAKE, 2007). As the Greek Ministry of Education directed the nationwide initiative of training teachers to be ICT trainers, the training course had rather a centralised character. Specifically, there were central ‘national’ documents of guidelines to be followed by the University departments that undertook the course implementation, common tools to be used, and common methods of implementation and assessment. As a result, creative initiatives were prevented from growing and emerging. Within this context, we aimed to capture how teachers appropriate and resist certain discourses of ‘identity change’ in terms of disciplinary cultures, curricula and possibilities for technology use. A preliminary analysis points out that discourses of ‘change’ embrace talking about experiences with technology as ‘fluid shifts’ from established disciplinary norms towards ‘new’ routines, rituals and politics of representing, communicating and producing mathematical knowledge. Discourses of identity change politics as ‘content-aesthetic’, ‘power relations’ and ‘cultural/discursive’ shifts are discussed in the section below. Mathematics educators seem to adopt collectively those claims hoping that broader ‘changes’ in mathematics education can be materialised. Technology-based mathematics education becomes a heavy political arena that serves to regulate teachers, learners and curriculum designers toward a particular collective identity change in the name of the ‘new’ math teacher.
1. Background

“Communicative” tasks introduced in Japan’s secondary school English classes are often low on authenticity and meaning, resulting in low learner motivation and limited output. Further obstacles to motivation include unclear goals, uncertain teacher and student roles, and limited opportunities for reflection. Although Japanese educators and policymakers recognize the need for improved English communication skills in today’s global society, it has been a challenge to overcome many of the traditional educational perspectives and classroom practices still prevalent. In response to this challenge, the authors have developed dramatic performance as an educational tool. While the value of drama in L2 learning situations has been recognized, attention has tended to focus on how it impacts learner motivation (Hsueh, 2008), language proficiency (Hsu, 2006), and critical thinking skills (Murillo, 2007). The authors, who design and facilitate an annual, yearlong teacher development (TD) program for high school English teachers (Suzuki & Collins, 2007), have included a “drama performance” component in this program since 2004. They have studied how drama impacts both learner autonomy and collaborative relationships (Fine & Collins, 2010), and in this paper turn to how drama allows Japanese EFL students develop a clearer image of themselves as English speakers.

The assumptions underpinning the TD drama performance component include that the participants should be able to (1) draw upon and use their past experience to imagine new situations; (2) engage in real social practice (Little, 1991) through authentic, meaningful activities; and (3) engage in “whole-language learning” – in other words, if participants grasp the context of the activity, as well as their roles within it, they will understand the role of the English used. The dramatic performance component guides participants through what is for many a revelatory first experience in situated learning (Lave & Wenger, 1991), progressing from an initial reading of scripts and exploration of character motivations, conflicts, and subtexts; to the development of psychological and physical approaches to performance; to theater sports and improvisations in character; to rehearsals in which a principal objective is experimentation; to scene performances before an audience of their peers; and finally to individual and group reflection, as well as a discussion of how they might apply their experience with dramatic performance to their own classroom personae and practices.

TD Program participants have found that dramatic performance encourages interaction using a
variety of idioms and speaking styles; provides freedom to focus on things such as inflection, physical gestures, and conveying emotion, rather than on grammar; and promotes self-confidence as well as actual ability. The shared experience of rehearsing and performing a dramatic scene also promotes camaraderie, trust, and friendship, which can lead to better learning environments and improved outcomes for second language learning.

2. Purpose of this study
These TD Program outcomes led the authors to introduce drama at a summer intensive seminar for advanced secondary students, the “Tokai English Olympics.” This paper focuses on the students’ productive processes of English as evidenced in the Olympics project – how learners gradually clarify their intentions through the roles they play, and how this process helps them to encode meanings into the target language. Through the process of rehearsing and performing dramatic roles, actor-students clarify the objectives, interpret the motivations, and construct meaning from the words and actions of their characters, drawing on their own personal experiences to bring life to the roles. In this way, the actor-student engages in a reciprocal relationship with her or his dramatic character, each contributing necessary elements, each increasingly defining the other as they advance toward the performance. In rehearsals and performances, the actor-students interact with their fellow performers and with the audience, making countless choices that must be spontaneous yet appropriate to the scene, character, and moment, adjusting their performances in real-time to the attitudes, desires, and feelings of the outer world.

This paper demonstrates how meanings for the students emerge, and how they express those meanings, through the process of rehearsing and playing dramatic roles. Although they approach the Olympics project from the stance of actors rather than EFL students – the project setting forth no explicit linguistic objectives and little linguistic instruction – participant output on speaking and writing assessments at the end is unexpectedly efficient in terms of contents, suggesting that their dramatic performance experience helps them to accelerate their natural encoding process in English. The results of this analysis suggest more effective ways to promote second language speaking and writing skills, which have traditionally been taught in Japan through the grammar-translation method.

3. Organization of the drama project
The Tokai English Olympics take place over a span of six days during the summer at a seminar house in the mountains of Tsumagoi, Gunma Prefecture, Japan. Almost two-dozen top English students from Tokai University-affiliated high schools across the country are selected as
participants for the drama performance project, based on a qualifying English examination. The teaching team for the project includes six teachers from Tokai University’s Foreign Language Center (FLC), five teachers from Tokai-attached high schools, one teacher from Tokai University’s Research Institute of Educational Development (RIED), and three Tokai University exchange students. Three teachers from RIED (including one member of the teaching team) collaborate with the FLC group on the project concept, task sequencing, assessment design, and development of materials. The limited time students have in which to construct their characters’ identities precludes the possibility of them creating original scripts, so the team assigns scenes and roles. Together, students and teachers explore and perform four scenes from a popular English-language motion picture.

Students are invited to focus primarily on the goals, motivations, and emotions of their dramatic characters, rather than on grammar and vocabulary, and English becomes a tool for communicating with the audience and achieving the ends of the characters, rather than an end in itself. Sessions, tasks, and supporting materials are thus designed and sequenced to promote this actor’s stance. In their sessions, the actor-students work in groups to understand and develop their roles, exploring (1) relationships between movement, sound, and emotion, (2) the literal meaning and subtexts of their lines, (3) the motivations and interrelationships of the characters, (4) pronunciation, rhythm, and intonation as tools for expression in English, and (5) the appropriate coordination of words with non-verbal communication strategies. They also create their own costumes, props, and sets. Each evening they reflect on what they have learned by completing a reflection worksheet specifically addressing that day’s sessions.

The Olympics conclude with writing and speaking assessments. The goals of these assessments are to provide students with chances to re-experience the communication skills and experiences they have developed, draw upon the content of the various kinds of resources introduced during the project, and demonstrate whether they can autonomously produce and correctly use target vocabulary and expressions.

4. Outcomes: Qualitative analysis

In the final written assessment, students have demonstrated their grasp of the overall story and its language by writing on an assigned theme from the main character’s point of view. In the final speaking assessment, students have demonstrated their grasp of their individual roles by responding in character to interview questions relevant to their own scenes.

In their assessment responses, about one-third of all students are able to recycle idioms, expressions, and key dialog, and to appropriate language and concepts from the synopsis and
scenes, using them in new yet proper ways. Almost all students capably address specific episodes from the story and offer first-person commentary. Particularly surprising and impressive is the frequent and vivid articulation of the character’s feelings about cited events, suggesting a deeper familiarity and stronger identification with the material than if the students had merely read and discussed the scripts and background readings.

Exit survey responses reveal that participants agree overwhelmingly that participation in the Tokai English Olympics helps them to improve their speaking, listening, reading, and writing, to build their vocabulary, and to express themselves more actively and confidently in English.

5. Conclusions
Drama can be compared to conversation, as envisioned by Goffman (1959, in Lemert & Branaman, 1997): we see someone, greet them (without meaning); we get to know each other, identify ourselves in the new relationship, begin to know the other person, and less and less language is necessary as each utterance gains deeper meaning – similar to a gradually higher-context situation. Encoding of a language with meaning takes place principally and most efficiently through authentic interaction, which is to say through the experience of using the language for meaningful communication. Dramatic performance provides this experience in a concentrated form and in a safe environment, accelerating the ability of participants first to use the language of the characters as their own – what might be termed “language embodiment” – and then to express their thoughts and feelings using their own words.
A comparative analysis of three case studies of ‘mutual appropriation’ for creating and maintaining university/community collaborative after school interventions.

Masako Nakamura - Virginia Gordon

In this research, three educational intervention programs are compared as alternative implementations of a ‘mutual appropriation’ intervention strategy (Cole & Engeström, 2008; Downing-Wilson, Lecusay & Cole, in press). We examine the role played by social class, ethnic background and institutional setting in the ongoing organization of activities across the three sites. We then trace how these factors are manifested in the trajectories of the collaboration process. The focus here is on the emergence and resolution of conflicts that arise in the collaborative organization of activities.

This research combined participant observation in the three sites over a two month period, and interviews with 20 participants from each of these sites.

The three sites in this case study, all of which are located in the same Southern California county, share several important characteristics. They are all after school intervention primarily targeting underserved children. All of the sites are organized via university/community collaboration. This collaboration involves placing undergraduate students in community-based after-school settings to engage in academic and enrichment activities with the local youth. The undergraduates attend these settings as part of a communication and human development field methods practicum or service learning course. The programs are operated by the same research group, under the auspices of Michael Cole and Laboratory of Comparative Human Cognition (LCHC). They incorporate leading activities and mix play and learning in the after school settings.

In spite of these similarities, there are important differences among the sites.

The first site is in a public elementary school located in an affluent neighborhood. It accepts about 30 children who are bussed in from a less affluent part of the county. The majority of these children are from low-income Latino families. About 20 undergraduate students called ‘Buddies’ participate in the program which is held once a week. The ratio of undergrads to children is less than one to two. This affords individualized attention to the children.

The program was introduced to the school by an enthusiastic parents group 15 years ago. They contacted Michael Cole and the collaboration between the school and the university began. Initially
the program started as an in-school instantiation of the Fifth Dimension (Cole & The Distributed Literacy Consortium, 2006) model. After nine years of in-school activities the researchers and the school decided to initiate a new after-school program. A new principal proposed an after-school program for the cohort of children who were bussed in. Changes in school administration and district policies emphasizing standardized testing motivated the shift to after-school and the emphasis on low-performing children.

Researchers were also interested in the education of underserved children, so participants found a point of mutual agreement and initiated the after-school program. Two years later the in-school Fifth Dimension program was eliminated.

The change to after-school transformed the way activities were organized and interpreted in the program. The original in-school program was a rather traditional Fifth Dimension. It contained artifacts like a maze, task cards and a Wizard. It was strongly supported by teachers and children. But when the program moved into the after-school setting, children were not eager to play it. Letters to and from the Wizard remain a relic of the original Fifth Dimension.

The second site, established less than a year ago, is housed in a charter school. The student population is socio-economically, ethnically and culturally diverse. The school’s emphasis on project-based learning, integration of learning and play, and respect for diversity made it easier for this school to collaborate with the researchers and other various organizations. About 60 children and 10 undergraduate students participate in this program. It is held four days a week and each undergraduate attends the site twice a week. Because of the small number of undergraduates, activities are largely group based. Undergraduates are encouraged to create projects for children.

Pedagogical differences are sometimes a source of conflict. In this intervention program, activities are designed to minimize power differentials among participants, particularly between children and undergraduates. Some adults, especially teachers, question the appropriateness of activities organized in this way. In the charter school case, a school coordinator became a buffer between school staff and undergraduates. In the last quarter the school hired two ex-practicum students as part-time staff, which made the collaboration much easier. Similar conflicts were also observed in the public school case.

Unlike the other sites in this study, which are located in schools, the last site is in an urban
community learning center housed in a federally-subsidized apartment complex. The majority of the residents are African-American. This difference in setting leads to very different characteristics in the collaboration.

The now three year old program is operated four days a week. There are about 30-40 youth (preK-16) who attend. The bulk of these are elementary school children. About 20 undergraduates who attend the site twice a week in turn and 3-4 graduate students participate in the program. Attendance of the registered children is voluntary. However, many children attend the center on fairly regular base.

Intervention was made in a cautious manner. At first university people tried to find out what they could do for existing activities. Later the hybrid activities which arouse from discussions of university people, the community coordinator and children/youth at the site, and new activities which depended on the presence of university people were gradually introduced (Downing-Wilson et al, in print).

In this site, differences in communication style and cultural values such as gender roles between the residents and university students may be a source of tension. Academic and practicum course readings and discussion in the class help the undergraduates negotiate these differences.

Homework also tends to be a source of conflict between children and undergraduates. The coordinator of the center requests children to do their homework at first and wants undergraduates to help them. However some children do not engage themselves in homework and school-like activities at the site.

In all three sites, we can see a fruitful result of intervention. The children like to play and communicate with undergraduates. Participants agree on the importance of undergraduates as mentors and positive role models of being a university student, because most children from underserved communities do not have access to such mentors or models close to them.

The program also offers undergraduates an opportunity to apply and test the social theories that they have encountered in their classes, which gives them high motivation. Some of them come back in the following quarters. Sometimes this experience changes their career plan into education programs.

To handle conflicts and keep collaboration going well, emphasis is placed on the value of constant communication. Various communication modes are used depending on the venue, face to face communication, e-mails, Skype and web pages, and in some cases, voice meeting over phone.
Trained to write ethnographic field notes, undergraduates report what happened at the site in detail. A searchable online database of the field notes is also an important artifact for information sharing as well as a prime source of research data.

Implementing and sustaining activities at the three sites are supported by a broader network of university/community collaborators. The necessity of a ‘spider’ person was pointed out from the long experience of Fifth Dimension (Cole et al, 2006). One should connect various actors with one another to succeed in making the activity stable (i.e. Latour, 1987).

In these sites Michael Cole and his researchers are the ‘spider’ persons, moving across the boundaries of university and community. But besides them, we can see community people such as school principals, the coordinator of the learning center and parents of the public school also engaged in networking. In such activities, new collaborations cross the boundaries.

**Discussion**

1) Change of agencies: New subjects, new objects and new activities

During the process of mutual appropriation, the actors are constantly changing themselves and others. The collaboration which crosses the boundaries generates new relationships, activities and new agencies. It not only changes children and university students but also all participants of the sites. For example, the learning center case became an ignition agent of new networking and activities not only for children’s education but also for broader issues of community welfare.

In the traditional intervention studies such as Change Laboratories, agency tend to be considered explicit and articulated from the beginning and to undergo reorganization by the research activities. But in these cases of mutual appropriation, we can’t tell at the beginning who the relevant actors are or what the configuration is like. The actors and network gradually become visible through the intervention itself.

2) Questioning power relationship of research

Mutual appropriation places greater validity on the other voices in the community than other research methods. We share the concerns of Engeström (2007). Analysis of designing process of mutual appropriation has the possibility of shedding light on the existing implicit power relationship of research activities.
620. That child is a yellow: English language ideologies in the anti-immigration era

Sultan Turkan - Ana Christina Iddings Da Silva

Although researchers and educators have long acknowledged that the complex relationships between literacy development and bilingualism are compelling topics of study, there is remarkably little systematic research in the area, particularly as it relates to the emergent stages of this development (Tabors & Snow, 2002). In general terms, emergent literacy researchers have established that “children are learning about literacy – what it is, what it does, its function and forms – from birth” (Whitmore, Martens, Goodman, & Owocki, 2004, p. 200) and that young children’s scribbles are far from random. These attempts to produce print are usually purposeful and meaningful representations of children’s current hypotheses about writing (Ferrero, 2003; Rowe, 2003). Researchers have also claimed that children’s early experiments with writing are an integral part of learning how print works and provides an important arena for the development of concepts needed in later independent reading and writing (Yaden, Rowe, & MacGillivray, 2000). In addition, researchers have argued that children’s understanding of what writing means and what it means to write is shaped by their sociocultural experiences (Gee, 2002; Kenner, 2004; Kress, 1997, 2000), raising the possibility that children who have become familiar with more than one language, culture, and representational systems may be able to “shuttle between these systems, making their own interpretations of the various meaning potentials offered by each one” (Kenner & Kress, 2003, p. 182). Moreover, several studies have suggested that bilinguals differ from their monolingual counterparts in the ways they approach, make sense of, and develop literacy in a second language (L2) (e.g., Brisk, 2000; DaSilva Iddings & Risko, 2009; Kenner, 2004; Martinez-Roldán, Yeager, & Tuyay, 2005); it follows, then, that the ways by which bilingual children come to learn about the written language may require specialized examinations.

A central and recurring claim in the literature about the cognitive influences of literacy, in general, is that it creates new conceptions of language in its users by taking language to a more conscious plane, giving it a more concrete form, and highlighting its representational function—thus making it an object of thought (Olson, 1994; Watson 2002). Scholars investigating the emergence of literacy for young children have also claimed that the process of using and coming to understand the written word does not only involve learning how to read and write (see the Newman & Dickinson’s [2002] Handbook of Early Literacy Research). Rather, this process involves a complex interplay of social, cultural, and linguistic practices characteristic of a particular community or context, leading to new understanding about “ways with language”, and more specifically, “ways with printed words” (Gee, 2002, p. 323). Thus, for immigrant children becoming bilingual, the conceptualizations of reading
and writing may look quite different as they come in contact with new linguistic and sociocultural contexts and begin to reorganize forms of using, representing, and understanding language. In this study, conceptualizations of writing were examined in relation to the cultural models and conceptual metaphors that were emerging for new immigrant English language learners (ELLs) who we observed during our yearlong study. In particular, we aimed to develop a clearer understanding about the ways by which language ideologies in schools define ‘success’ in academic English writing for these students.

A microethnographic approach was engaged for this research. Our focal participants were 3 Mexican third-grade students and one 2nd grade student who were new immigrants to the United States (less than 5 years in the U.S.), native speakers of Spanish, living in a rural community in the State of Arizona, in a small school district that has followed a state mandate for English-Only instruction in all subject areas. These students had varying degrees of proficiency in English, but all of them were dominant in Spanish. They were selected as case study participants by their respective teachers based on their previous year’s relatively low performance on standardized tests. Building on sociolinguistic theories, and more specifically on the ethnography of communication (e.g., Gumperz, 1986; Hymes, 1974), we followed Gee and Green’s (1998), ethnographic approach to discourse analysis considering language in relationship to the context in which it is used.

Findings for this research make visible that hegemonic ideologies about knowledge of English continue to guide U.S. educational contexts and policies. Our analysis demonstrate that conceptualizations of writing held by the ELLs might reflect (in content and language) larger ideological Discourses involving implicit metaphors such as 1) Writing as procedures, 2) English as success (career/life), 3) Learners as test scoring categories. More specifically, the learners in our study strived to succeed through the use of formulaic language and structure in writing, which emphasized form (e.g., the number of sentences in a paragraph) and placed little focus on meaning. In addition step-by-step procedural aspects of writing with the goal of completion of assignments or the increasing of test scores were emphasized. Lastly, the scores children received on practice writing tests considerably influenced how teachers and administrators in the school perceived the children. For example, students were often labeled as a category of test score that designated their academic proficiency in English (i.e., “That child is a yellow”; He is a 279). These labels were shown to be a constraint to the children’s academic writing progress.

References

Chinese is depicted as being relationship oriented, indirect communication, as well as avoiding direct confrontation, and protecting the face of interactants compared to individualists (Ohbuchi, et al., 1999; Bond & Hwang, 1986; Gao et al., 1996; Ting-Toomey, 1988). Nevertheless, some psychologists recognize the aggressiveness and ulterior motives concealed in superficial harmony (Chang, 2001; Chang & Holt, 1991), which pinpoints the necessity of emotional competence embedded in the interpersonal communication within Chinese sociocultural values of harmony and relationship. Drawing from a larger study concerning how high school students, enrolled in “Innovative Competition Using High Temperature Superconductor for Magnetic Levitation” regulate their emotions in conflict situations, this paper focuses on one aspect of emotional competence: emotional communication within relationships (Saarni, 1999) which students is currently under developing. The topic is examined by highlighting typical events that a group leader encounters sever conflicts with a competitive group member. The group leader’s reflections on his emotions, in which embedded the way he talks about his emotions, are presented, along with a story from the interactions with his counterpart. The purpose of this paper is to draw researchers’, in the area of emotional development, attention to how emotional communication within relationships is accomplished and constituted in discourse in sociocultural activities.

Cross-culture psychologists have found that social and culture norms influence Chinese ways of managing conflicts. They concluded that culture values, such as harmony, guanxi (maintaining relationships) as key constructs elicit Chinese to be less directive, and less confrontational in conflicts than westerns (Chiu & Kosinski, 1994; Ting-Toomey, 1988; Chang, 2001). Culture not only has impact on cognition, motivation, but also emotion (Markus & Kitayama, 1991), especially emotional communication (Saarni, 1999; Eisenberg et al., 1998). Fewer researchers explore how emotional communication within relationships (Saarni, 1999), not to mention pursuing this topic under the influence of culture and psychological integrity in real settings.

Researchers perceive emotional competence as including awareness of one’s own and others’ emotions, tendency to display emotion situationally and culturally appropriate, and ability to inhibit or modulate experienced and expressed emotion and emotionally derived behavior as needed to achieve goals in a socially acceptable manner, awareness of the nature of the relationships and how emotions are communicated within the relationship, and capacity for emotional self-efficacy (Eisenberg et al., 1998; Saarni, 1999).
Strauss & Corbin’s (1990) grounded theory strategies were used as the basis for data collection and analyses. Major data collection includes documentation, observations and interviews. High school students in groups of five participated in the “Innovative Competition Using High Temperature Superconductor for Magnetic Levitation” were observed as they implemented their creative ideas. Documents include group discussion records, process records for the implementation of their creative thoughts, and explanations for modification regarding final demonstration models. To understand how group members regulate their emotions in conflicts, the participant groups were all observed as they met in laboratories to work on their projects. Groups’ discussion sessions were videotaped. Verbal as well as nonverbal accounts were transcribed and used to interpret the social context of group conflicts. Both a video recorder and tape recorder were used and observation notes were taken to record the individual’s (1) facial expressions, kinesics (hand and leg movements, and posture), physical appearance, language usage, paralinguistics, gestures, and any artifacts they used; and (2) interaction with other group members, movement directions and angles, facial expressions, level of focus, physical placement and distance from others, etc.

Besides observations, each case was interviewed during the study. The initial interview questions were designed based on the analysis of the conflict situations indicated in the group discussion records. The students' accounts of the group conflict situations, their dealings with conflict, their emotional experience, as well the effects of conflicts and difficulties on the invention process were collected in the interview sessions. Every group member of participant groups were interviewed a second time regarding critical conflict situations taken from observations during their implementation stage. In the way that they talked about their emotion, the nature of their relationship with his counterparts, their sense of self-efficacy, psychological needs, sense of control in goal and power relations as well as how the impact of sociocultural values on their emotional communication within relationship revealed , and it revealed t, which disclosed. Data analysis followed strategies by Strauss & Corbin’s grounded theory and theme analysis suggested by interpretive phenomenologist (van Manner, 1997 ). Triangulation was conducted between cases and within a case of different sources of data and across time.

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Theoretical assumptions

The introduction and diffusion of the portfolio in schools is not accompanied by an explanation of its theoretical viewpoint and consequently there is no agreement about which notion of learning is to be used to acknowledge the results obtained by the students as satisfactory.

Many scholars like Witek and Habib (2005) underlined that much of the literature available on portfolio assessment tackles the subject from a normative point of view. For example, the impact of portfolio assessment of students’ learning is often described as being undoubtedly positive, without an adequate epistemological and ontological investigation of what the positive effects are and how they are properly achieved. Moreover, some contributions make assertions on the value of the portfolio without first introducing the reader to the author’s theoretical formulation regarding learning and knowledge.

Some positive exceptions to this inadequacy are to be found in the sociocultural approach and the specific contribution of the Theory of Activity.

In the sociocultural approach the conceptualization of the portfolio falls within a wider reflection on the cultural artefacts and their function in the processes of acquiring knowledge and particularly on its function as a “boundary object”, that is as a material or symbolic tool which permits communication aimed at the construction of a thought and an action common between people, fields of knowledge or systems which, despite some element in common, are each characterized by their own specific historical and cultural nature (Engeström, Engeström, Kärkkainen, 1995; Tuomi-Gröhn, Engeström, 2003). Here the portfolio is considered a “boundary object” precisely because it permits people (pupil and teacher) and different systems to relate to each other. Consider schools and the productive system which, through the portfolio, can each recognize the function of the other: schools, in fact, give documentary evidence of what an individual has acquired, while the productive system acknowledges those acquisitions in order to assess their correspondence to its own work-force requirements.

Communication is facilitated because the portfolio’s transparency distinguishes it from other assessment tools; that is, the fact that it indicates clearly to those who examine it a series of processes and activities carried out, and is able to infer indirectly the competences which, by means of the portfolio, the individual shows he can master.

A further advantage is the use of the digital portfolio, the most suitable means for referring ‘practical thinking’ in action (Scribner, 1984).
Due to its multimedial characteristic, the digital portfolio permits individuals to demonstrate the competences underlying the achievement of results through photographs and videos showing them occupied in the various phases of specific activities. Furthermore, this tool allows them to demonstrate their competences through images of themselves “in action”, without having to give a verbal or written description of these competences, which could be an impediment above all for those at a social or cultural disadvantage.

In other words the digital portfolio shows the individual performing actions accompanied by language which specifies and explains the reasons why they are carried out, thus underlining their deliberateness.

Moreover, another perspective of the portfolio as a boundary object pursuing aims of social and/or institutional communication is the link between portfolio and accountability; in fact the symmetry maintained between the assessor and the person being assessed must be underlined, in the sense that the person being assessed explains the criteria which characterize his performance. This is extremely important because the traditional uneasiness which accompanies assessment procedures is reversed; usually the moment of expressing judgement is a phase in which one person is subject to the assessment of another in a position of greater authority. In the viewpoint of the portfolio as an accountability tool the person who must be judged becomes the protagonist in as much as he/she is jointly responsible for the criteria proposed for the analysis of his/her own activities, so that the level of symmetry founded and assumed by the sociocultural perspective with the ‘apprenticeship in thinking’ (Rogoff, 1990) is maintained.

This approach is widely innovative for the assessment of educational actions because it links accountability to learning, and the control and sanction which have long characterized education are abandoned.

The connection with processes of learning adds another feature to that accountability which is usually referred to when a check on the results of the implementation of reforms or programmes is desired, precisely for the need to answer for the investments realized and their profitability. While this recognizes individuals’ right to propose criteria to assess their performance by putting them in a symmetrical position with their assessors, at the same time it obliges the professional person to be responsible for the social value of his actions and so answer for them. This reference to actions and their daily nature widens the spectrum of possible assessments and induces a reflective process in those who must be assessed regarding the multiplicity of their actions, their social utility and the effects they can have also on the level of their professional growth.

In short, the perspective of the digital portfolio proposed considers the portfolio as:

a) a ‘transparent’ object;
b) a tool to give a better idea of practical thought in action;
c) a boundary object between different systems;
d) a tool to account for the social value of professional actions.

**Action research**

The action-research referred to here regards the development of the digital portfolios of students of the Faculty of Psychology 2 at the ‘Sapienza’ University of Rome during the course “Formation of socio-educational operators”. The aim of the research was to develop together with the students portfolios which were boundary objects between university and the work world which would allow them to demonstrate the professional competence acquired at university in terms of specific actions, reflective ability on the results obtained, argumentation of the reasons for the actions carried out.

With this aim the course was divided into four modules, each of which had a general topic (such as working with groups of adults and working with adolescents) and practical work on the specific professional tools necessary for the psychologist’s intervention in educational contexts (the semi-structured interview, management of collective group discussions, the focus group, assessment). Besides, for each module various texts and articles taken from scientific magazines were selected, as well as material for the practical work produced by researchers working in socio-educational contexts.

The overall structure of the course was based on the supposition that the students would take an active part in the activities proposed in lessons, with the aim of promoting, through the choice of topics, material and consignments of work, the acquisition of some components of the professional competence of the educational psychologist through the use of collective discussion and a systematic re-elaboration of the experiences achieved (Pontecorvo, Ajello, Zucchermaglio, 1995).

The portfolio is a modality of assessment which can sustain this acquisition because it is based on selection processes, reflection, argumentation of the information and practices used, and which, in the integration required between theory and practice, action and reflection, allows the acknowledgement of the qualities of performances documented through that same portfolio.

More specifically, the construction of the portfolio was sustained by the distribution to each student of a file functioning as scaffolding. This file contained, in the form of an index, a description of the contents and the modalities of production required for the different tests, leaving a wide margin for autonomy regarding aspects such as the choice of some of the contents, the general organization of the final product, the space and quality of personal reflections.

Each task was accompanied by a critical reflection on the aspects connected to the learning processes stimulated in carrying out the various activities; finally each activity was documented by
a video in which the student could be observed while carrying out that activity. 

Results and conclusions

Some aspects of the results of this research on the use of the digital portfolio as a boundary object are of great interest for the documentation of professional acquisitions. First of all, we must underline the two different methods used for making the portfolio: some students chose to have their colleagues’ help to shoot the videos, whereas others preferred to use a fixed camcorder without any other help. These two choices led to different results, producing different ways of demonstrating professional abilities. During an interview, for example, zooming on particulars of the body (such as the hands) emphasized the greater or lesser ease of the interviewer, or filming an expression revealed an inopportune attitude of judgement on the part of the interviewer. In other words, yet again the social dimension of professional competence is evident.

A further reflection concerns the criteria with which the students discussed their professional actions, which are, on the one hand, effectively a measure of decentralization in as much as the students succeed in ‘seeing themselves from the outside’, and, on the other, an indication of the ability to reflect on their single actions, a typical and anything but banal element of professional competence.
Because language is a mechanism for thinking, a mental tool of cultural artifacts and symbols that are constantly changing, when an activity is mediated so that the learner uses its symbols and concepts of a new culture, it is our belief that the second language can transcend from being a tool-for-result in fulfilling social communication and skill building of performing a task (cognitive processes) to a tool-and-result. Hence it has the potential to be used for building meaningful relationships.

It is our hope that when our adult learners participate in mediated activities that allow them to engage, conceptualize, experience, and reflect on what it means to be an ELL student, they can develop insights and become not only users of Spanish but also help their own students capitalize on using their second language. We examine these assumptions in the context of an ethnographic study of ESL teachers learning Spanish in the US.

Specifically we pose these questions: How does learning another language help teachers understand the L2 process? How does learning another language affect their instruction of L2 English learners? We gathered fieldnotes, their reflective journals, semi-structured and informal interview data, and their course projects. We analyzed these thematically. We selected telling moments and analyzed these discursively.

Our findings indicate that there were problematic relationships between expert and apprentices, tensions in what language is valued in terms of knowledge displays required by the institutions in which the teachers worked, difficulty in our scaffolding to help teachers recognize and overcome the privilege of English dominant knower and considerable challenges in overcoming dominant discourses about Spanish.

To confirm our analyses we triangulated our data sources and consulted with the teacher participants. In general the teachers were able to articulate their knowledge about learning Spanish as a second language, many through English but surprisingly several through Spanish. It is this group that can be shown over the year making Spanish their own and developing a closer relationship with their students' parents. The vast majority of the teachers readily related to their own students feelings, processes of acculturation, and difficulty in understanding new concepts.

The types of knowledge built through analysis of texts was much more readily understood by the largest number of teachers. This fact underscored the importance of the first language literacy in becoming literate in Spanish. Familiar genres were used and produced without difficulty, eg. letters, poetry, posters, short stories, etc. Predictably, unfamiliar textual structures, eg, songs and longer
essays proved challenging to most. The most problematic area of learning was building connections to new concepts and theories even in context. Through their reflective journals and interviews we were able to obtain evidence of their understanding of conflicting pressures to negotiate the classroom discourses in Spanish, the English only expectations of some teachers. The majority needed to use English for grasping concepts such as funds of knowledge, differences between programs, parental expectations, etc.

The degree to which teachers felt the use of Spanish was legitimate in a classroom, affected the type of projects they undertook to relate to their learner's families and communities. Those who became comfortable using Spanish expanded their use of this tool to gather information from community resources and incorporate them into classroom practices. The less comfortable and secure about using Spanish, the more likely teachers would use English texts in their interactions with second language learners.

In the area of knowledge through reflection, we found very encouraging signs that that the experience had had profound impact on many. Three teacher reflective texts will be shared and analyzed during the presentation. To conclude we share several major findings and their implications for preparing teachers to educate multilingual learners in the US.
Diversity of all kinds and at all levels in today’s societies has pushed traditional views on expertise development and learning at its edge. Former ways of training young researchers and professionals within universities are challenged by these demands. The purpose of this research is to examine types, phenomena and accounts of expertise - related to multi-lingual, multi-cultural and multi-disciplinary diversity - as constructed by the students after having accomplished the first study year of the trilingual (research) Master program Learning and Development in Multilingual and Multicultural Contexts at the University of Luxembourg (http://www.multi-learn.org). This program is designed as a response to the aforementioned challenges by offering not only learning and expertise building about diversity, its contexts, and theoretical approachability, moreover, providing a set-up of diversity - in terms of cultures, languages, interdisciplinarity, multimediality and working formats. Specifically, the design of the Master’s program responds to the tangible diversity within the society in Luxembourg (roughly, 500.000 inhabitants, with 55% nationals, 45% non-nationals, 173 nationalities, 120.000 cross-border commuters everyday into Luxembourg) and the educational challenges this involves (e.g., heterogeneity in groups of learners, high rate of school failure, demand of highly specialized but multilingual workforce, workplaces marked by interculturality etc.) by integrating reality-based diversity issues as the object of the higher educational learning. The guiding research question when investigating into the learning achievements as available from the Master students is bi-fold:

Firstly, the devices of higher educational work (e.g., design of group-work, assignments etc.) have to integrate and foster diversity in and as learning. Which principles for designing these devices can be applied? Do they work and if so, how? Which means are need to assess the quality of these devices?

Secondly, the learners bringing in their diversity and gaining expertise in approaching diversity are at the center of the program. How do learners perceive their learning and their learning achievements? Which patterns of accounting can be identified? And how do learners establish realtions and causalities between the devices as offered by the program and their learning?

Socio-cultural approaches to learning and professional development highlight the importance of interaction with other professionals and the emergence of knowledge in and through these interactions. Having interaction at its center, language is argued to possess specific functions in constructing meanings in and as social practices. By means of these activities, participants
construct, change, organize and remodel social realities. Doing things, explaining things to each other, assessing and accounting for the realities as experienced is accomplished by means of language and the multiple configurations which are co-constructed in interactions and other mediational activities allowing for expertise development in highly diverse settings. Following these grounds of reasoning, educational solutions which implement diversity - in terms of cultures, professional backgrounds and educational experiences - allow for configuring the working and learning together as widening and deepening of students’ understanding and developing their conceptual and social skills to work and learn together.

**Methodology, Methods, Research Instruments or Sources Used**

The study applies disourse-interactional instruments for participants for collecting, analyzing and assessing two sets of data as elicited from the participants of the study (here, the Master students). Data of this research is collected in two loops. First, the students (n=20, highly diversified on all levels - multilingualism, multiculturalism, disciplinary backgrounds, professional backgrounds, age etc.) have written an instructed journal of their first year academic development and professionalisation. These journals have been analyzed by applying discourse analysis (DA) in aiming to identify the core dimensions of auto-perceived learning achievement and academic development. Second, specifically set up students’ group meetings have been video-recorded and transcribed (according to educational CA). Then the analysis examines interactional ways to construct academic development in the multilingual and multicultural group. DA is used as a frame of reference and as a methodological tool in alignment with educational CA with regard to workplace encounters.

**Conclusions, Expected Outcomes or Findings**

Putting the specific case of a learning environment at its center, the current study provides conceptual and methodological insights allowing for defining elements for further intervention and implications of the design of expertise-bound learning environment in higher education. Firstly, the practices deployed for describing and accounting for incidents of expertise development as given by the participants indicate which (and if) patterns of such development can be represented, in relation to systematic diversity-bound accounts thereof and/or their constructions in terms of language-as-activity. Secondly, methodologies assessing development and its specific perception as held by the participants involved in such a process are discussed with regard to their suitability and the potential for sustaining the development of expertise as traced. Finally, potentials and conditions for interventions from the students’ in diversity-bound developmental programs are outlined. The study contributes to empirical and case-valid work which focuses on the social elements in academic development in multilingual and multicultural contexts in order to a) better grasp the issue of
expertise and b) analyse how this is perceived (as pertaining meaning) by the person engaged in the developmental process.

References
1. Introduction:

This PhD project is about exploring the systems of care in Norway that are designed to provide care for unaccompanied asylum seekers under the age of 15 as an arena for development and participation. Each Care Center is an institution where approximately 25 – 30 minors reside. The institutions are run by regional child welfare authorities. According to the existing law governing child welfare services in Norway, these authorities have had responsibility for this group of children.

“Unaccompanied minors” are children who are under 18 years of age, who have been separated from both parents and who are not being cared for by another adult, who, by law or custom, is responsible for providing care (UNHCR, 2004). Until very recently, the unaccompanied children that arrived in Norway were placed in reception centers for asylum-seekers. From December 1st 2007, regional child welfare authorities are required to provide single, asylum-seekers under the age of 15 years with housing and care facilities while their asylum applications are under review. This process may result in the permission to stay in Norway or in the rejection of the asylum application. Norwegian child welfare services have been given the responsibility for a new and very vulnerable group of children and adolescents. The Care Centers are obliged to provide these minors with security, proper care, schooling, and the necessary medical as well as psychosocial treatment (Norwegian Directorate for Children, Youth and Family Affairs, 2009).

Since the organization of care-provision in the Care Centers is quite new, systematic knowledge about the situation of the children who reside in these centers, and the ambitions and efforts of the professional care-givers working there is rather sparse. More generally, there seems to be minimum knowledge about the nature and context of the care provided to unaccompanied children (Mitchell, 2003), especially during the first months of their stay.

The analytical focus for this study will be two-fold. First, the organization, practice and understanding of care that is provided by professionals that work at the Care Centers will be explored. In addition, the experiences of the children who reside in these centers and their participation in the everyday care practices that are undertaken will be studied. A hallmark of the care and situation of minors is its transitional character: their status as residents in the Care Centers is supposed to last for less than a year.
2. The concept of transitional care

The understanding of what proper care for children is like is rooted in the psychological and pedagogical sciences as well as in the law and in more general cultural ideas. In Norwegian society, parents are by law (The Children Act, section 30, 2009) given the responsibility for providing the child’s material and emotional supports, for providing the child with a proper education, and to generally guide the child to properly maneuver within the broader social and cultural contexts. The law (The Children Act, section 31, 2009) requires that parents fulfill these obligations in cooperative agreement with the child. Parents are thus obliged to support the child’s active participation in, and understanding of the processes that enable the child to grow up and shape his/her own developmental paths. Guiding the child into progressively more complex social participation is an important part of the child-care tasks of parenthood in our time. If a child, for one reason or another, does not have parents who can take responsibility for her care, child welfare services are designated to take that responsibility. This is the case for unaccompanied minors who arrive in Norway seeking asylum.

Care is a very wide term and it is used in a number of professions and fields of inquiry. The literatures of many disciplines discuss the concept of care in national and international documents. Care is a multi-dimensional concept that has been widely used in welfare research. The concept has a relational aspect, and it points to the provision of material and psychological supports and services (Lewis & Daly, 2000). The concept of care is used in this paper focuses upon the total care system needed for a group of children in a specific situation and period of time.

Study in the field shows that effective early stages of care provision can make an important contribution to the lives of children seeking asylum (Hyder, 1998). Furthermore, inappropriate procedures for dealing with these children contribute to high levels of stress and emotional symptoms (Sourandre, 1998). As a consequence, it is very important that the child-care system provided for these children should emphasize the development of the child’s competence, i.e. enabling the development of competence by conducting care provision that respects and builds upon the participation of these children.

3. Socio-cultural traditions: A theoretical point of departure

Vygotsky’s (1978) social-constructionist theory provides a useful framework for understanding the dynamic nature of the development of children as processes anchored in social interactions and mediated by the use of cultural tools. According to Vygotsky; proper child-care should comprise the inclusion of the child in culturally embedded social practices that also include adults or more advanced peers that would mediate the meanings of the artefacts, relationships, activities and sign systems (including language) involved in the situation. Gradually the child will be able to
appropriate the skills and systems of meaning involved and thereby be able to construct his or her own understanding of himself/herself and the world, not as a copy of, but to some extent in accordance with the mediated meanings that have served as tools and compass for his or her developmental moves.

The point to be emphasized here is the task of the adult, especially the professional adult, is the exploration of the “zone of proximal development ZPD” of a specific child in a specific situation in order to organise the kind and amount of support necessary to help the child progress in the situation and to appropriate and generalize the practices and meaning systems that are involved in the situation. Furthermore, Rogoff (2003) asserts that interaction in the ZPD allows children to participate in activities that would be impossible for them alone.

Rogoff (1990, 2003) further delineates the adult role (professionals) in the developmental cycle of the child through her concept guided participation. Guided participation involves children and professionals in a collaborative process of building bridges from the current understanding and skills of children to new understandings and skills. This is achieved by structuring and arranging participation in activities with a dynamic shift in the responsibilities given to children.

The interactional systems within which the child actively takes part, Bronfenbrenner (1979, 2005) is called the microsystem. In his ecological theory of human development, Bronfenbrenner (1979, 2005) introduced five interacting systems that he considered to be necessary for understanding human development. Bronfenbrenner also underlines the positive emotional climate necessary for a child to thrive and learn. This concern of his may be summed up in his phrase “Somebody has to be crazy about that kid” (Bronfenbrenner, 1994: 118). Some of the children residing at Care Centres may develop close relationships to one or more of the professionals working there and vice versa. Close relationships with teachers and class-mates at the local school may also occur. Such relationships will ordinarily end when these children leave the Care Center to reside in other Norwegian municipalities or when they are returned to their countries of origin. This is one of the great challenges connected to the transitional care organised at the Care Centers.

4. Methodological aspects and approach

The approach used for the study is qualitative in nature since the ultimate goal is to study and develop knowledge about the understanding and organization of care for the unaccompanied asylum seekers children at the Care Centers.

The study has taken place in two care centers for children in order to highlight the differences in practices between them. Life-form interviews are used with the children (three rounds in different time spam) and one round of interviews with the adult informants, adults informants involves the professional workers at the care centers, legal guardians, teachers of the local school, and other
stake-holders. Observation of every day practices during the whole day activities at the care centers, at the local school, and at the local community are also used, in addition to some related documents analysis.

5. **Focus of this paper:**

The focus of this paper is to present the results of the current research project. The presentation will introduce the research project, and the theoretical and the methodological aspects used for this study. The main focus of the paper is a detailed description of the care system provided for the unaccompanied asylum seeking children at the transitional phase of the asylum seeking process. The professional representation of care beside the children understanding of it will be the main concern. In addition, some recommendation related to the provision of care will be presented.
639. Identity reconstruction and empowerment in women after suffering gender violence. An analysis based on Brner’s self indicators

Sala Arianna - Manuel Luis de la Mata Benítez - María Jesús Cala Carrillo - Marina Calderón García

In Spain social awareness about gender violence has increased during the last decade and it has now become a main topic in the political agenda. Proof of this is the proposal recently approved by the European Union, which is currently chaired by Spain, on gender violence. There has been insistence from multiple forums that zero tolerance should be the common response to this scourge. However, despite the actions taken - in particular the adoption in 2004 of a specific law (Ley Orgánica de Medidas de Protección Integral contra la Violencia de Género)-, the number of victims has not decreased, 60 women were killed in 2009, neither has it been possible to outline the process of mass destruction that affects all women victims of abuse by their partners. We know that the physical and psychological consequences involve so much pain that the recovery process becomes a highly complex matter. But some women make it through with therapeutic help and close social support networks, using various learning procedures that allow them to reconstruct their identities and regain control of their lives.

This study analyzes the evolutionary course of recovery in women who have experienced partner gender violence and have managed to purge it and regain control of their lives. It seeks to outline the achievements of women who, having endured a long, hard struggle, have managed to overcome their traumatic experiences and now wish to help others who are going through similar experiences. However, before describing the empirical study, we would like to clarify the notion of identity that we take as a starting point.

The concept of identity in this study is neither unitary nor essentialist. Against the traditional idea of the self as an inner property, something that each person has or inherits from its ancestors, the interpretation here is one of a series of dynamic processes that are built through the wide range of social interactions over the course of life (Sala, de la Mata 2009; Stapleton, 2001). Something similar is happening to the notions of subjectivity and identity as has happened to the notion of gender (Stapleton, 2001) which has become increasingly removed from sex and reinterpreted from feminist psychology as a social agreement, something done during the course of the action rather than something you have (Crawford, 1995). In the words of Wetherell and Edley (1999, p. 338) “Subjectivity and identity are best understood as the personal enactment of communal methods of self-accounting, vocabularies of motive, culturally recognizable emotional performances and available stories for making sense”. In short, the concept of identity is understood as a resource that people use to represent themselves and others in daily life and which is constructed through
personal interactions in a changing and contextualized way (Deaux and Stewart, 2001; Smithson, 2005). Regarding the notion of self and identity, Bruner (2003) claims: “…there is no such thing as an intuitively obvious and essential self… Rather we constantly construct and reconstruct ourselves to meet the needs of situations we encounter, and we do so with the guidance of our memories of the past and our hopes and fears for the future. Telling oneself about oneself is like making up a story about who and what we are, what has happened, and why we are doing what we are doing.” (p. 210). Through narrative, individuals both express themselves and actively construct their own self-representation: “Identity is that internalized and evolving story that results from this selective appropriation of past, present, and future” claims McAdams (1999, p. 486) in his theory on identity.

AIMS

Our goals is to analyse, from a narrative approach, the process of identity reconstruction of women that could finish situations of gender violence. More specifically, we have used an adapted version of Bruner’s (1997) self indicators to assess what aspects of the self are given preeminence in the different stages of their autobiographical narratives. We assume that this analysis will let us examine the process of identity reconstruction after the long period of violence experienced by the interviewed women.

METHOD

Participants

The study sample consisted of eight women of both Spanish ethnicity and origin, aged between thirty and seventy. They had suffered gender violence from their partners and had managed to recover from that situation. Recovery is understood as the complete disappearance of the abusive relationship and the reconstruction of the victim’s personal and social life, with freedom, independence and quality of life.

Instruments and Procedure

The instrument designed for this study was a semi-structured interview. Most interviews were carried out during 2008 in rooms at the Instituto Andaluz de la Mujer and they were all conducted by female interviewers. The interviews, which lasted between one and two hours, were recorded and then transcribed before the data analysis.

THE ANALYSIS

To analyze the interviews we started by dividing the transcript of the interview in micro-structure (independent linguistic units, identified according to syntactic and semantic criteria). Each microstructure was assigned to one of the following categories:

1) AGENCY+: refer to acts of free choice, to voluntary actions, and to initiatives freely undertaken in pursuit of a goal. They indicate choice, decision and control. They are indicative of practical
actions and behaviors in which the subject is involved.

2) AGENCY-: It is referred to situations in which agency is impeded.

3) REFLEXIVITY: speak to the more metacognitive side of Self, to the reflective activity invested in self-examination, self-construction, and self-evaluation; the cognitions and metacognitions a person devotes to the narration of her own life and the way she lives.

4) RESOURCES +: All the powers, privileges, and goods that an agent seems willing to bring or actually brings to bear on his commitments. They include not only such “external” resources as power, social legitimacy, and sources of information, but “inner” ones as well, like patience, perspective, forgiveness, persuasiveness and the like.

5) RESOURCES -: This category was coded when the subject refers to the lack of resources (both external and internal) to cope with a variety of situations. We have also coded as Resources – the lack of capacity to do something, to accomplish a goal.

6) SOCIAL REFERENCE +: Indicators that tell where and to whom an agent looks in legitimizing or evaluating goals, commitments, and resource allocation. This category is coded when the individual refers to a group, a social network that provides support her as a person and, specifically as a woman that is victim of mistreatment.

7) SOCIAL REFERENCE -: This indicator was coded when there is a reference to the lack of a social network or group to provide support for the person.

8) COMMITMENT +: This category was applied when a delay in self satisfaction was observed, when the individual assume personal sacrifices to take care of other people in the family.

9) COMMITMENT -: This category was applied when actions to take care of one self and to look for personal satisfaction are developed.

10) EVALUATION +: The individual gives a positive valuation of someone or something.

11) EVALUATION -: The individual gives a positive valuation of someone or something.

12) CONGRUENCE+: This category was assigned to the cases in which the individual expressed her agreement with the canonical cultural model, whether in her experiences or in the way of analyzing them. This category was also applied in the case of internalization of the androcentric and machist social discourse.

13) CONGRUENCE -: This category was assigned to the cases in which the subject expressed her disagreement with the canonical cultural model, whether in her experiences or in the way of analyzing them.

14) QUALIA +: They are indicators of the qualitative aspects of the self, of the mood, We coded as Qualia + the references to positive mood: falling in love, like something …

15) QUALIA -: Negative moods like feeling bad, rage, dislike something…are coded as Qualia -.

16) OTHERS: All units that cannot be coded in any other category are included in this one.
Two additional (and independent of the previous ones) categories were considered: indicators of time and space.

17) INDICATOR OF TIME: all units that refer to a specific time were coded in this category.

18) INDICATOR OF SPACE: all units that refer to a specific place or space were assigned to this category.
641. Reading comprehension from a Vygotskian perspective

Yvonne van Rijk - Dorian de Haan - Monique Volman - Bert van Oers

This paper is the result of a multiple case-study on reading comprehension of informative texts in grade 4 of primary schools (age 9-10). In the Netherlands the Vygotskian approach in primary education is known as ‘Developmental Education’ (van Oers, 2009). In schools inspired by this concept, Vygotskian theory is put into practice and further developed by collaborative efforts of researchers, teacher educators and schools.

The curriculum is inquiry-based in the upper grades, engagement and ‘meaningful learning’ are leading principles. The curriculum is divided into thematic units of 6 to 8 weeks each, providing a meaningful context for the students’ collaborative inquiry activities, where reading activities are integrated with subject matters. Themes are, for instance, ‘The Environment’ (energy, pollution, sanitation), ‘The Romans’ (architecture, administration, religion, daily life), ‘Space’ (missiles, gravity) and ‘Healthy Food’. Thematic units foster students’ collaborative construction of knowledge and development of skills (including reading skills) through their participation in a sociocultural practice, for instance a ‘spacelab’ where students can do physical experiments (spacial theme).

In this approach teachers emphasize that the main purpose of reading is gaining meaning. The approach has incorporated topics widely known to be important for reading comprehension, such as explicit strategy instruction, vocabulary and prior knowledge (Snow, 2002), and motivational aspects, such as relevance, student choice, success, mastery goals and collaboration, estimated to foster engagement and reading for meaning (Guthrie, 2004). In order to stimulate students’ interest, teachers purposefully offer a rich supply of interesting, meaningful (reading) content and a variety of (reading) activities. By doing so, they seek to involve all students into reading texts corresponding to their interests, prior knowledge and reading level (Pompert, 2004).

Since it is assumed that students’ active involvement is essential to reading comprehension, this approach is expected to contribute more to the student’s reading motivation (Guthrie, 2004) and the acquisition of comprehension strategies than traditional approaches will do.

The objective of the present study is the exploration and evaluation of the theory-based approach to reading comprehension in schools for Developmental Education.

In this paper we report on the first phase of the study. The main question was: what characteristics of the developmental framework can be identified in classroom practice of reading comprehension? We split up the main question into the following research questions: How do teachers foster reading strategies? How is reading motivation stimulated? How do teachers differentiate between students?
How do they evaluate students’ (development in) reading comprehension?

Data collection

We selected 5 experienced ‘developmental education’ teachers in grade 4. Classroom population varied regarding students’ mastery of Dutch as a first or second language and students’ socio-economic background. Data consisted of interviews and video observations; also documents were collected and analyzed for triangulation. Classroom instruction and reading activities were videotaped 3 times during a thematic unit. We interviewed teachers at the start of the thematic unit, right after each classroom observation, and at the end of the thematic unit. Video recordings took up over 6 hours per teacher. In addition we collected documents like teachers’ preparation and journals, reading texts, and students’ research questions.

Data collection was centered on how teachers fostered reading comprehension from a developmental approach: how reading motivation was stimulated, how strategy instruction and small group support were conducted and how reading was connected to other inquiry activities, especially to writing. Furthermore we focused on how teachers differentiated with respect to students’ interest, prior knowledge, vocabulary and reading level, and on how the selection of meaningful texts took place. We also asked teachers about their ways of evaluation of students’ (development in) reading comprehension.

Data analysis

Case study methodology was used for data analysis (Huberman & Miles, 1994) which was carried out using software designed for qualitative data-analysis (Atlas.ti 6.1).

Data analysis was conducted on teachers’ actions (observations) and reflections (interviews) on how they foster reading comprehension, with a focus on how they stimulate reading motivation and how reading informative texts is embedded in inquiry-based activities based on students’ interest and questions. We also focused on how teachers differentiate between students, all these aspects being part of the developmental approach.

Within-case and cross-case analyses were conducted in order to identify the ways in which the characteristics of the developmental framework occur in classroom practice. Although the research is still in the process of data analysis at the moment of submitting the abstract, a first analysis reveals a number of interesting findings.

- conversation and open questions are an important source for analysis of students’ needs for instruction during the entire period of the thematic unit
- classroom conversation and goal setting differs with school population (prior knowledge related to sociocultural background, Dutch vocabulary)
- teachers create instructional plans, purposefully adjusting content, text selection, reading
instruction and reading activities to their best analysis of students’ needs and interests
- reading for meaning is realized by students actively searching for information to answer their questions, supported by teacher assisted conversation (collaborative thinking in classroom and small group)


Developing the understanding of envy and schadenfreude in 3 to 8 year-old Danish children

Kristine Jensen de López - Laura Quintanilla

The experience of envy has been defined as emulation or as the feeling of spite and resentment at seeing the success of another person and refers to the desire of obtaining what someone else has and the consequent suffering (Diccionario de la Real Academia Española, 2010, Silver & Sabini, 1978, Smith & Kim, 2007, Miceli & Castelfranchi, 2007). Envy is characterised by a certain pattern of behaviours produced by the loss of one’s own prestige compared with someone else’s success and in addition envy involves a moral component and the evaluation of the self (Dogan and Vecchio, 2001, Vecchio, 2005). Apart from the aspect of morality additional socio-cognitive aspects contribute to the complexity of envy. Clearly, envy is unfolded within a triadic relationship where basic cognitive and affective processes are at stake. Experiencing envy involves comparing oneself to specific characteristics or properties of another person. Hence, to attribute another person with the emotion of envy we first need to analyze the antecedents and consequences of a specific situation. One initial cause of envy may be the inequality of ownership by social comparison which may lead to low self-esteem, feeling of inferiority and injustice (Parrot, 1991; Smith y Kim, 2007). Consequentially, low self-esteem can provoke one to direct the wish of ill will or revenge towards the envied person (Miceli & Castelfranchi, 2007). The completion of ill will allows the envier to restore her own self-esteem through experience of the sensation of pleasure (Powell, Smith, and Shurtz, 2008). This gained state of emotion is even expressed lexically in some Nordic languages. For example, in the German word schadenfreude and the Danish word skadefryd. Whereas current scholars separate schadenfreude/skadefryd from envy (see Silver and Sabini, 1978, Smith, 2008) ancient philosophers, e.g. Aristotle, Spinoza and Gracián considered the emotion of schadenfreude/skadefryd to form a central part of envy (Powell, Smith and Shurtz, 2008).

Expressing the emotion of envy is conceptualized as a dynamic process, where two different people - the envier and the envied – engage in an unequal relationship centred around a third object. The person who holds the unfavourable position is expected to hide her pain or suffering. This complex constellation may be seen as a challenge for the study of envy and possess a particular demand for understanding children’s development of mental abilities, self-consciousness in conjunction with their understanding of emotional attribution.

Most importantly, understanding contexts of envy requires the ability to recognize the unsatisfied desires of the envier while comparing the possessions of the envied within the triadic relationship. It
also requires the ability to attribute suffering, frustration, or negative emotions to the envier. In other words understanding envy rests upon a set of complex mental abilities.

Children from different cultures are capable of understanding the self-conscious envy from the age of three years. 3-year-olds are able to understand that someone feels bad if she does not obtain what she desires and another one has, similar to what we have described as envy. Also, they understand that someone can feel happy while witnessing the misfortune of another person similar to what we have described as schadenfreude or skadefryd (Quintanilla, Jensen & Sarriá, 2008; Quintanilla y Sarriá, 2009; Quintanilla & Jensen, in press).

However, envy and schadenfreude are unmentionables emotions, non-acceptable socially in majority of cultures. Being envier means to recognize publicly having a hurt self-esteem, being low achiever, and may be to cherish ill will for envied person (Micelli and Castelfranchi, 2007). Envier likely feels schadenfreude when envied suffer damage (Smith, 2007). Having desire of misfortune for another person and feel pleasure about that, as well as, being envious are undesirable socially and morally but, those social rules are learnt during childhood. Main objective of this study is to observe developmental pathway in attribution of schadenfreude in envy context. We found young children openly attribute schadenfreude. However we wanted to know whether older children attribute schadenfreude in envy context or on contrary they avoid to attribute this feeling. It is known 6 to 8 years old children understand when someone violates social conventions or transgress a moral norm and the role of the audience to arise feelings like embarrassment, shame or guilt (Griffin, 1995). The responses to attribute schadenfreude in envy context could be influenced for older children’s knowledge about this feeling is not acceptable socially. Hence we expect older children will attribute envy (suffering for another’s success) but they won’t recognize the schadenfreude
Positioning the self in personal narratives to regain the control of our lives: A study on identity reconstruction in women after suffering gender violence

Andrés Santamaría - Mercedes Cubero - Rosario Cubero - Javier Saavedra

In Spain social awareness about gender violence has increased during the last decade and it has now become a main topic in the political agenda. There has been insistence from multiple forums that zero tolerance should be the common response to this scourge. However, despite the actions taken - in particular the adoption in 2004 of a specific law (Ley Orgánica de Medidas de Protección Integral contra la Violencia de Género), the number of victims has not decreased, 60 women were killed in 2009, neither has it been possible to outline the process of mass destruction that affects all women victims of abuse by their partners. We know that the physical and psychological consequences involve so much pain that the recovery process becomes a highly complex matter. But some women make it through with therapeutic help and close social support networks, using various learning procedures that allow them to reconstruct their identities and regain control of their lives.

This study analyzes the evolutionary course of recovery in women who have experienced partner gender violence and have managed to purge it and regain control of their lives. It seeks to outline the achievements of women who, having endured a long, hard struggle, have managed to overcome their traumatic experiences and now wish to help others who are going through similar experiences.

Before describing the empirical study, we would like to clarify the notions of identity and positioning that we take as a starting point.

The concept of identity in this study is neither unitary nor essentialist. Against the traditional idea of the self as an inner property, as a homogeneous and stable entity, as a kind of unified agent of individual’s acts, the interpretation here is one of a series of dynamic processes that are built through the wide range of social interactions over the course of life (Sala, de la Mata 2009). We defend a distributed and dialogical concept of self. Bruner (1996), for instance, defend the existence of a distributed self, as “a swarm” of participations that is the product of the situations in which the person participates. The person, from this perspective, constructs his/her identity as an individual differentiated from others. On the other hand, Bruner claims that the self takes its meaning in the historical circumstances of culture. It is supported on meanings, languages and narratives which are culturally and historically specific (Bruner, 1996; 2003). Hermans & Kempen (1993) add a dialogical character to the self. They claim that the self involves a great variety of positions, of ways of acting in the world. These positions and ways of acting are close interconnected with other
people’s minds. The very concept of self is, according to these authors, a kind/sort of “coalition” of the different positions that the individual occupies and involves all the significant others. “Positioning Theory” holds that people make themselves recognisable to their interlocutors through virtues, motives and skills (Harré & Langenhove, 1999). These self-attributions correspond to the demands of a certain social position, in other words, how I want to be understood by my interlocutors. Clearly, establishing one’s own social position implies explicitly or implicitly establishing the position of the interlocutor. Discursive acts of positioning can be personal attributes or motives, roles, social rights or moral rules.

Something similar is happening to the notions of subjectivity and identity as has happened to the notion of gender which has become increasingly removed from sex and reinterpreted from feminist psychology as a social agreement, something done during the course of the action rather than something you have (Crawford, 1995). In short, the concept of identity is understood as a resource that people use to represent themselves and others in daily life and which is constructed through personal interactions in a changing and contextualized way. Bruner (2003) claims: “…there is no such thing as an intuitively obvious and essential self… Rather we constantly construct and reconstruct ourselves to meet the needs of situations we encounter, and we do so with the guidance of our memories of the past and our hopes and fears for the future. Stories we tell about ourselves have been considered as very important tools in order to construct our identity (McAdams, 2006). Telling oneself about oneself is like making up a story about who and what we are, what has happened, and why we are doing what we are doing. Through narrative, individuals both express themselves and actively construct their own self-representation.

**AIMS**

Our goal is to analyse, from a narrative approach, the process of identity reconstruction of women that could finish situations of gender violence. More specifically, we have used to assess what aspects of the self are given preeminence in the different stages of their autobiographical narratives. We assume that this analysis will let us examine the process of identity reconstruction after the long period of violence experienced by the interviewed women.

**METHOD**

Participants

The study sample consisted of eight women of both Spanish ethnicity and origin, aged between thirty and seventy. They had suffered gender violence from their partners and had managed to recover from that situation. Recovery is understood as the complete disappearance of the abusive relationship and the reconstruction of the victim’s personal and social life, with freedom, independence and quality of life.
Instruments and Procedure
The instrument designed for this study was a (auto)biographical semi-structured interview. Most interviews were carried out during 2008 in rooms at the Instituto Andaluz de la Mujer and they were all conducted by female interviewers. The interviewers dialogued openly with women, therefore, interviews can not be considered traditional autobiographical relates or “big stories”, in term of Bamberg (2006), but conversations about women’ lives or different meaningful events of their lives. The interviews, which lasted between one and two hours, were recorded and then transcribed before the data analysis.

THE ANALYSIS
To analyze the interviews we have followed two phases. We started by establishing the different self positionings along the personal narratives (moving from social positionings to personal positionings, and vice versa), and after we developed a global interpretation and integration by using the notion of voice. We consider that by using this narrative and positioning approach to the analysis of the identity reconstruction process could be positive at least in three aspects. First, it could help us to understand how these women cope as agents with the experience of “interanimate voices” in natural contexts. Second, analysing the difficulties to achieve a coherent discourse of women recovering from prolonged abuse and domestic violence could contribute to understand the social and constructive nature of the self. Finally, in the long run, this narrative approach could help to understand a possible cultural and social nature of identity.

In order to show the sequence of the different self-positionings along the personal narratives and the interaction between positions and voices, we decided to analyze deeply only three interviews for the congress (A. 33 years old, police woman; R. 41 years old, working in a bakery; and, M.E. 41 years old, teacher in primary school).
Vygotsky's theoretical legacy is immense. This paper will add weight to Vygotsky's (1986) perspective that everyday learning is a foundation for scientific learning and that the two are mutually constitutive. Specifically, it develops recent ideas that consider children as active agents in their own learning and inquiry into understanding the world they live in and the cultures and communities they participate in. It argues that children's working theories act as a connecting link between everyday and scientific knowledge through the mediation of self, peers and teachers. Working theories can then also act as a foundation for formal and coherent bodies of conceptual knowledge that are vital in the adult world, such as the domain science, but also social sciences and associated affective components through connections with the multiple identities, roles and responsibilities children will enact as adults. Sensitive mediation in terms of both curricular and pedagogical approaches from knowledgeable teachers within children's ZPDs can assist this early knowledge creation.

Vygotsky (1986) discussed the reciprocal relationship between spontaneous (i.e., everyday, experiential) and scientific (i.e., formal, conceptual) concepts in children's learning. Spontaneous concepts emerge from children's thinking about their everyday experiences, that is, they are acquired in the context of participation in family and community practices and activities. From the perspective of cultural-historical theory, institutional settings, such as families and early childhood education services, provide opportunities to develop children's personal, everyday knowledge and research ways in which children might begin to develop early conceptual knowledge. Chaiklin and Hedegaard (2009) described their concept of "radical-local" teaching and learning to emphasise combining intellectual concepts with the local content and conditions in children's families, communities and cultures.

However, discussions of children's everyday knowledge learned in early childhood settings have not often made a step between the intuitive type of knowledge developed during children's participation in play and other cultural activities and conceptual knowledge. Fleer (2009a, 2010) demonstrated that play-based opportunities for development of everyday and scientific concepts occur, but are dependent on teacher knowledge and action for any coherence to be likely. This paper is in keeping with Fleer's (2009b, 2010) approach of studying children during their play activities. It discusses working theories as a strategy for children to indicate their spontaneous thinking, everyday knowledge and interest in early conceptual knowledge.
Te Whāriki (Ministry of Education, 1996), the curriculum policy document in New Zealand for children aged from birth to five years, has two indicative learning outcomes: dispositions and working theories. While the notion of dispositions from a sociocultural theoretical perspective has been developed extensively over the past few years, the concept of working theories has remained elusive. In outlining the notion of working theories, Te Whāriki states:

In early childhood, children are developing more elaborate and useful working theories about themselves and the people, places, and things in their lives. These working theories contain a combination of knowledge about the world, skills and strategies, attitudes, and expectations. …. As children gain greater experience, knowledge, and skills, the theories they develop will become more widely applicable and have more connecting links between them. Working theories become increasingly useful for making sense of the world, for giving the child control over what happens, for problem-solving, and for further learning. (Ministry of Education, 1996, p. 44)

The word "working" suggests that these theories are tentative and speculative. They are built from prior knowledge, in particular, possibly limited, contexts, and open to revision on the basis of new information and experience.

Two theoretical frameworks may also assist understanding of working theories as a concept: firstly, Vygotsky's (1986) spontaneous (everyday) and scientific concepts; and secondly, Claxton's (1990) concept of minitheories. Claxton argued that much knowledge is tacit, that is intuitive and intangible generalised notions drawn from everyday experiences of the world. Therefore people often find it difficult to articulate the basis of their knowledge and understandings. Claxton noted that implicit theories are "a collection of lots of different, piecemeal, purpose-built 'minitheories'" (p. 8) used to interpret new information in light of current experience and understandings. This paper discusses working theories as ways that children think about, inquire into, and make meaning about their worlds. Claxton argued that in the early years of life, through gradual editing and improvement, minitheories become more useful, effective, comprehensive and appropriate.

I used an interpretivist methodology (Flick, 2006) in two early childhood settings (ten teachers and 35 children) to investigate children's interests. Data generation methods included participant observation, interviews and documentation. Working theories provided one lens to analyse children's interests. The findings in relation to working theories will be described in this paper in keeping with Vygotsky's (1986) belief that development involves learning much more than domain knowledge and includes becoming a contributing member of a community and society and Rogoff's (2003) claim that learning involves more than academic concepts.

(For example)

Everyday understandings about caring for humans were applied as working theories to looking after
animals. Inagaki and Hatano (2002) argue that children spontaneously pay attention to human interactions and reveal a personification-based understanding of the living world; that is, attempting to understand something new by assuming it to be human-like. "Children exploit their relatively rich knowledge about humans to make educated guesses about other entities" (p. 2). Drawing on their knowledge about caring for infants and pets in family homes, children's initial working theories were firstly everyday concepts about looking after animals and insects in terms of food, shelter, respiration and sleep, but not necessarily finding out conceptual knowledge about them. As Imogen digs, she finds a slug in the sandpit. … She perseveres trying to get the slug on the leaf, hoping it will "take a bite". Eventually, she gives up and puts it in her hand and takes it to show Olivia [her older sister] who is painting. "Look what I found!" … She shows it to Claire [teacher]. … [She] takes the slug to the table where she puts it on a piece of paper and draws around it. …. She tells Billie and Marcella who are watching that it is sleeping, then puts it on her finger to show them. (1K/129)

This kind of response was not confined to toddlers, with young children acting similarly. Shannon, aged nearly five, found a spider in a tyre and made a "home" for it from a plastic container that met its survival needs by being enclosed but having air holes for "breathing". He avoided teachers' (Christine and Theresia) offers of using a magnifying glass or adding information while working on the spider's home. This example illustrates that it is difficult for teachers to judge the moment of when to feed conceptual knowledge into children's interests and experiences and structure play and learning opportunities accordingly, but also important to attempt to do so in order for learning to (eventually) lead development.

In summary, the findings demonstrated that children developed working theories and everyday knowledge in key areas related to their interests and inquiries in areas of personal significance in relation to their life experiences. Working theories about their lives, relationships and wider worlds were constantly being offered, developed and connected together. Further, working theories could act as a zone of proximal development to lead children to the beginning development of formal and coherent bodies of conceptual knowledge that are vital in the adult world, such as literacy and science, and knowledge pertinent to the multiple identities, roles and responsibilities they will enact as adults, when supported by the mediation of knowledgeable and sensitive adults. Hedegaard (2007) notes that ways children's personal knowledge might be related to conceptual knowledge depends on the situational conditions, that is, the affordances and constraints of the early childhood institutional environment and how these encourage the child to develop and utilise motives in learning. If a child's motive involves curiosity, then working theories become part of a child's thinking and cognition strategies. The situational conditions include the way curiosity is
stimulated, provided for and responded to. These place an onus on a teacher to have the knowledge and skill to foster understandings, particularly to highlight conceptual knowledge embedded in children's play more consciously (Fleer, 2010). Teachers' subject content knowledge and knowledge of pedagogical strategies appropriate to early childhood education may need to be re-thought within an inquiry approach built on sociocultural perspectives (Hedges & Cullen, 2005), particularly one that might attempt to connect conceptual pathways and foster curiosity. Heightened attention to working theories in teachers' professional knowledge and teaching and learning practices in early childhood settings is also vital to children's continued inquiry, theorising and meaningful early scientific (conceptual) knowledge building.
The general aim of our research is to go deeper in the role of culture in the constitution of knowledge. For that propose, we start from the Cultural Psychology perspective in which human development is viewed as a product of social life and the human social activity (Boesch, 1996; Bruner, 1997, 1998, 2001; Cole, 1996; Cubero, de la Mata y Cubero, 2008; Eckensberger, 1990, 1997; Santamaria, Cubero y de la Mata, 2010; Shweder, 1991, 1999, 2000; Wertsch, 1998, 2000). It is viewed as a process of interaction between individuals, cultural tools and the activity setting in which individuals develop. The psychological actions that individuals carry out in a particular activity setting determine the use of discourse genres as well as ways of thinking derived from these.

Cultural Psychology also proposed, as well as Billig perspective, that thinking must be consider as a way of rhetoric argumentation. Billig (1987) defines argumentation as a set of interventions that are related in discourse and designed to convince others of one point of view. Thus, this author assume that the "structure of how we argue reveals the structure of how we think" (p. 111).

Billig also reported that in all argumentation there is a tension between the particular and general dimensions. The general dimension consider each event as integrated event into a more general system and therefore is viewed as part of the whole, rather than as a separate entity. This generalization is the basis of the existence of decontextualized categories. The opposite, but complementary principle, it is the particularization. This considers each event or objects as unique event. It is closely associated with the context of occurrence and it derives its meaning from its position in it. Particularization is associated with modes of thinking in which the meanings of the signs are contextualized. But Billig argues that these two types of strategies used to argue are not only complementary, but also coexist in the same discourse.

This tension between the particularization (argumentation through the use of particular events or objects) and generalization (argumentation through the use of categories) is closely linked with the two basic modes of thinking referred to by many different authors. In this sense we should especially note Bruner (1986, 1996, 2001).

In this context Bruner proposed three primitive frames constituent of all human action. These frames, intersubjectivity, instrumentality and normativity, are considered as three parallel modes of locating objects and events in a symbolic and historical-cultural context. From this perspective, one
derives that intersubjectivity has to do with the human need to interact with others, sharing with them, at least some aspect of their definitions and also knowing that we share it. Instrumentality directly affects the means-goals relationship that permeates all intentional behavior of humans and involves placing things in the context of goal-directed activity. And the normativity is related with how to place the events in the context of what is expected, reliable and, therefore, legitimate.

In this context, as Vygotski (1986), Luria (1976) or Scribner (1977) did before, Bruner (1986, 1996, 2001) underlines the close relation between activity settings and ways of thinking or ways of argumentation. In this way, he proposed two ways of argumentation in which the three primitive functions take different forms. So these different ways of argumentation are different forms of meaning construction, of understanding reality, of concept formation and, therefore, ways for making sense of experience. In this sense, they differ in the way in which meaning is achieved. The most contextual or everyday ones, narrative thinking, provide an interpretation of events, rather than an explanation through orders experience temporarily to create a story. In the most formal or decontextualized ones, propositional thinking, meaning is achieved by abstraction, sacrificing temporality, personalization and context. Other important aspect of these two ways of understanding is the different ways of their verification procedure. They two may be used as a way for convincing the other. But which they are convincing is very different. The first one convinced of the similarity with the reality, with the everyday life and for that, the most important aspect is not the true but the similarity. The second one convinces of its true and the verification is made by procedures which let us formal and empirical tests (Bruner, 1986, 2001).

Thus we could speak of a narrative system that combines the three primitives in the structure of a history temporarily ordered and directly linked to the subject who created it, to the experience and the activity context in which it takes place. On the other hand, Bruner (1986) proposes a propositional system in which meaning is acquired by abstraction, sacrificing the temporality and the personalization for a more general and decontextualized “reality”. These two systems of reference are two systems to construct meaning and interpretation, they are priority modes that human beings have to perceive, categorize, remember... In short, they are two ways of knowing and argumentation.

These modes of argumentation, based on the primitives proposed by Bruner, seem to us a perfect view of the relationship between thinking and language. But, even if we presented the two modes of thinking as opposed to each other, authors such as Wertsch (1991), Tulviste (1991, 1998) or Bruner (1986) defend the idea that narrative and propositional thinking are typical ways of argumentation that often are related and living simultaneously. The choice of pure or mixed argumentation forms that combine both modalities or not depends on the cognitive evaluation that the subject made on
the listener or audience, goals and objectives pursued and the mastery of semiotic tools associated with each mode. Even more, we can argue that these mixed forms that incorporate psychological tools of the two modes of thinking are the ones we can help us to establish genetic links between the two forms of thinking.

From this point the aim of this paper is to analyze the characteristic of different ways of thinking through the argumentation in discourse in an adult education classroom. More concrete, we want to describe how is the discourse of the teacher and students, through the use of a category system of the argumentation. In this context, we want to differentiate different types of knowledge or argumentation, in particular narrative and propositional argumentation.

We have studied the natural context of school. We have videotaped the development of the teaching and learning process that took place in a classroom of adult education where a specific reading activity was developed. In this activity, the participants –one teacher and fifteen students- had to read, to understand, to analyze and to discuss a book about the life of a teacher in the II Spanish Republic years. To analyze the arguments of students and teacher in the debate situations we elaborated a category system, taking into account the primitive functions of the discursive proposed by Bruner (1996, 2001): Intersubjectivity, Instrumentality and Normativity.

The results have shown clear differences between students and teacher modes of argument. The arguments of students use forms of intersubjectivity, instrumentality and normativity characteristics of narrative mode of argumentation. However, the teacher argues mainly using propositional or mixed modes of argumentation (Cubero et al 2008).

The arguments given by the students helped us to understand how they interact in the debate. So they considered the debate as an everyday situation. For that, they used contextualized arguments based on personal experiences and those arguments help them to find empathy with the audience and to convince it through the verisimilitude of their argumentation. However, the teacher used a discourse in which the generality of its arguments gives the “truth”. In this case, the pursuit of the rule, the norm, it is which makes that their arguments are considered as good ideas or ways of argumentation.

But also with the teacher's discourse, she helps students to internalize and appropriate of this second form of argumentation. Perhaps this is the reason why the teacher does not leave the use of the most characteristic forms of argumentation used by the students: narrative forms. Even more, they used mixed forms of argumentation. The second one could understand as a bridge between narrative forms and the most propositional ones. For that reason, it could facilitate the transition and the learning process of the students to decontextualized ways of thinking, the main objective of education. With the use of mixed forms of argumentation, teacher helps students to gradually acquire the propositional argumentation.
**652. Contextualising Learning: Developing Socio-cognitive abilities of young children**

*Pooja Bhargava*

Recent research in the field of social cognition details the emerging self-other understanding during the preschool years. Children are highlighted as active agents in developing the skills required for social interaction. The process of children’s development in this sphere has been closely related to their participation in everyday social activities. Children’s participation in everyday social life provides a researcher with a sound base for the appraisal and analysis of children’s thinking.

Piaget highlighted how a child actively constructs knowledge where maturation plays a major role in advancing a child’s cognitive abilities. Vygotsky (1978) highlighted the role of socio-cultural influences on children’s development. His theory is advanced on the interplay of two “lines of development” the natural line and the social historical line (Vygotsky, 1978, p. 24). According to him children use ‘psychological tools’ to aid their thinking and behavior. He called these tools ‘signs’. Using ‘signs’ children engage in ‘mediated behaviour’ which aids in their development; they just do not simply respond to environmental stimuli but are also influenced by their own actions or signs. Child development was believed to be guided by history, culture and interpersonal communication. Since children are always operating in an environment where they are surrounded by other children and adults, they are exposed to multiple interactions with these people. Vygotsky observed how higher mental functions developed through social interactions with significant people in a child's life, particularly parents. Through these interactions, a child learns and comprehends his own actions and gains knowledge through which meaning and action are advanced. This key premise of Vygotskian theory is often referred to as cultural mediation. The specific knowledge gained by a child through these interactions also represents the shared knowledge of a culture. This process is known as internalization.

The research aims to redefine and reduce the data-phenomena gap (Valsiner, 2007) by employing techniques which were familiar within the context in which children live. Using multiple methods, both standardized techniques and indigenously designed interactive methods was believed to adduce more favourable conditions for children’s participation in the research study. An attempt has been made to capture children’s knowledge using methods which focus on highlighting children’s understanding rather than the researcher’s orientation. This helped in maximising the voices of children and their companions in the data and avoiding impositions on meaning and procedure as far as possible.

Socio-cultural perspectives on the self suggest that we develop an understanding of the world through guided engagement with cultural context. To obtain a comprehensive insight into the
children’s understanding of self and others, the study was designed to proceed in two different socio-cultural environments. In this study, two rather diverse sites were chosen; one location was a metropolitan city and other a village. Village Umrain in Alwar District of state Rajasthan, India was the rural site and Mumbai, Maharashtra in Western India was the urban location. The techniques were designed keeping in mind the two different socio-cultural contexts. The study was conducted with 48 children who were the primary respondents of the study. The caregivers of the young children and other companions through the testing procedure were also included in the study. Thus, the sample of the study consisted of 48 households and all their members.

Children were given a set of toys to play with and their play was video recorded for 15 minutes. Children’s play with objects illustrated their mental representations and conceptualisations of self and others during which it was possible to observe and understand their spontaneous exchanges with play materials. During play, children enacted several real life events and assigned roles to dolls which they gathered from their everyday observation of people’s interaction with each other. These activities reflected instances of ‘cultural intersubjectivity’ which according to Trevarthen and Reddy (2007, p. 42) enables each individual to inherit and learn social skills through a process of mutual awareness. Their engagement in complex pretend play which also involved active role taking by children or assigning roles to the dolls (rocking the doll in lap, making the doll breastfeed, taking the school bag and wearing the spectacles) illustrated their advanced understanding of not only their own self but also of people around them and the functions of common objects. Pretend play of children in both the locations helped in sketching the abilities of children associated with self-other understanding. Doll play was found to be particularly illustrative in this domain as it presented a direct display of a child’s mental map about other people. There was a slight difference in the pattern of doll plays in two locations. While conducting the task it was observed that urban children were more comfortable and relaxed in exploring the dolls than rural children. Some of the rural children hesitated to play with the doll or even touch them as they found it scary. One of the children in the rural location even used it to scare his friend “[kk;sxks ;k rsjs dks” (It will bite you!).

When it came to playing with the material it was observed that rural children used the other play material (other than the dolls) to play. They used the material (spectacles, bag, mug, basket) with the dolls and experimented a lot. Their experiments included putting some play material like glass, mug, and spectacles in the bag, piling up the dolls on top of each other, putting all the material in the basket. Children in the urban setting used two or more dolls to put up a play or act more often than children in the rural location ($t_{46}=2.92, p=0.005$). Children in both the locations used dolls as babies but this phenomenon was more in the urban locale than in rural. It has been suggested that children engage less in such a kind of role play where they have exposure to real babies to play with.
and some real adult work to do to (Edwards, 2005). Urban children engaged in much more pretend play using dolls, rural children were sometimes found to be a bit wary of using it to play as it looked scary and unfamiliar to them. This observation also explained rural children’s underperformance on pretend play using dolls and also the lower evidence of doll to doll play. It is possible that a child would gradually go beyond manipulation, object play and on to pretend play with dolls as they become more familiar with the material.

Activities of children while playing highlighted the priorities of each cultural context, as well as the ecological meaningfulness of playful activity, language use as well as interobjectivity and intersubjectivity. Urban children were engaging themselves in a lot of imaginative storytelling and play which complemented adults’ questions from children. These interactions focussed on didactic exchanges between adults and children. This conversational style of adults was perhaps based on the belief that this would help prepare children in urban settings for effective participation in formal schooling. It was found that children were initiated very early in the school setting in urban locations where they are often exposed to such interactions and are also required to participate actively. Anxious parents eager for admissions into ‘good’ schools for their children, place a high value on preparation for schooled language. Children in the rural setting on the other hand were found to be more exposed to a directive style of conversation which required them to carefully attend to adult’s instruction and conform. The focus was more on obedience and comprehension rather than articulation and autonomy in conversation. This finding supports the ideology of Indian families where there is a focus towards appropriate action and a high level of interpersonal knowledge (Chaudhary, 2004). This does not at all imply that children were lacking in freedom of thought and movement; on the contrary, it was found that children in rural areas had much more autonomy for unguided movement around the neighbourhood and even the village, to attend school or not. The constant supervision that characterised urban homes was not displayed in the rural families.

In light of these findings it is critical to declare that this was not believed to be an evidence of a ‘slowness’ or speed in arrival of developmental milestones, but rather a demonstration of ‘interobjectivity’ (Moghaddam, 2003), or social priorities of the community, their approach to the world and thus the events being transacted during the research.

The performance of children was nested within all the factors; the study of which facilitated a comprehensive understanding of children’s socio-cognitive behaviour. The study makes an important contribution to the literature on children’s development by focusing on the proximal features of the environment and the dynamic engagement between the child and the surrounding social and cultural elements, rather than treating context as something that is taken as rigid and predetermined.

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The study describes co-configuration activity between university of applied sciences, work organization and family counselling customers. The investigated project, Participatory multicultural family counselling (hereafter OSMOS, in Finnish Osallistava Monikulttuurinen Sosiaaliohjaus, funded by the European social funding 2009-2011) aims to develop new work models for social work, boundary crossing collaboration models between social work and university of applied sciences, and to support students’ effective recruitment to multicultural social work. OSMOS takes place as a joint effort between Helsinki city social services (the division of family counselling) and Metropolia University of Applied Sciences (Social studies sector). Each stakeholder represents particular expertise or experiences for solving the project aims; knowledge and experiences of the customer work, knowledge about the current research knowledge and methods, and the pedagogical methods. The customers of family counseling bring in the experiences about the problems and the well working solutions of social work.

To explore the practical and theoretical challenges of the object construction in a heterogeneous setting, we have used the concept of co-configuration used recently in activity theoretical studies (Engeström, 2004; Virkkunen, 2006). Co-configuration was originally introduced by Victor and Boynton (1998), particularly deriving from the studies of innovation and management consultancy. They summarize the historical phases of the production starting from craft work, and developing towards mass production, process enhancement, mass customization, and finally, the co-configuration type of production. Co-configuration is characterized by the dialogic knowledge in a highly complex interaction between the producers, users, and the products to be designed and used. The object of the co-configuration activity is typically a complex family of products and/or services, which include both existing solutions and parts that need to be tailored for the users’ needs. Co-configuration takes place when constant re-configuration of the products and creating trust and companionships between partners that have not worked together previously is required.

The potential forums for co-configuration of OSMOS-project have been studied. These include Learning lab sessions, meetings with customers in family parks, meetings with selected experts, and arranging open seminars for potential stakeholders. Also, a virtual working environment has been used to manage and collaboratively construct the knowledge. The method of Learning lab (applied from Change laboratory® method) has been the main arena for the participants to explicate, model and reflect on their current practices and to create practices to be piloted. In Learning lab, the
representatives of social work (five social field workers) and the applied university (five teachers and two students) meet in approximately monthly face-to-face sessions. Each session has a thematic focus, e.g., the current problems in multicultural families’ early support. The work has been reflected with various artefacts as the mirror material, including customer interviews and critical incident cases. Homework has been used to prepare and comment on each others’ workings.

During OSMOS-project, a large amount of documents has been produced. A grounding idea in Learning lab activity is that the discussions, shared analyses and suggestions get materialized as texts, figures and models. The construction of knowledge over long period of time is enabled by the collaborative learning environment that preserves the materialized knowledge. A collaborative, web-based environment Knowledge Practices Environment (hereafter KPE) has been used for sharing and developing the project knowledge. KPE has been designed to support long-term, object-oriented knowledge creation, where the objects being developed can be problems and theories, ideas or concepts (Paavola & Hakkarainen, 2009). KPE tools embed learning theoretical concepts of developmental work research (Engeström, 1993), including virtual triangle models of activity system, and 3x3 tools. KPE has been developed as part of Knowledge practices -laboratory – project, funded by EU (www.kp-lab.org/).

The aim of this study has been to analyze how the participants co-configure in order to come up with new work models, and family counseling service solutions. In particular, we have studied ‘What are the instances of co-configuration in the development activity between the developers and teachers of university of applied sciences, social services managers and field workers, customers of the family counselling services and other experts of social services?’ The data consist of videotaped Learning lab sessions, other meetings between participants, and the data in KPE system. From the data, episodes have been traced in order to reconstruct the overall organization of the co-configuration activity, and the use of different tools to materialize, communicate and construct new knowledge in different working modes (face-to-face, face-to-space and virtual).

The study produces knowledge about the co-configuration activity between experts and students from university of applied sciences, social workers, customer families and other social work experts. As a result of the study, a trajectory from planning to concretizing the new field pilots is described, showing how the stakeholders have carried in their own perspectives and aims, how they have participated in different phases, by using different collaborative forums, and by using different tools for presenting and constructing knowledge. The results show how this activity has involved several iterations of presenting, analyzing and re-opening the knowledge. In this activity, the collaborative KPE tool has played a vital role by enabling the iterative construction of knowledge. Also, KPE has enabled combining the individual, pair work and group work, which all seem to have
specific roles in co-configuration. The results have also shown the challenges of the efforts for participatory activity of the customers. The results can be used to organize activity, particularly in ill-defined settings where the participants are to create new solutions or products as part of heterogeneous network.

References
Introduction

The present study has its root in an array of complex theoretical, methodological and policy factors in the area of education, especially in classroom teaching and learning in India.

Government and International data suggests that although the enrolment rate has remained high, in the last few decades the drop-out rates have remained very high as well in India. Analysing the relationship between social, economic and regional disadvantaged and drop-out rates we can find a clear correlation. In the Indian context this interrelationship can be understood in various ways including social factors like caste, gender and religion, economic in terms of class and also geographic in terms of regional disparities and the urban-rural divide. If we analyse the drop-out data in terms of caste (which is a social reality in India) the gap becomes more vivid.

Table 1.1: Drop-out rate (Overall, Scheduled Caste and Scheduled Tribes) 2004-05

<table>
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<tr>
<th></th>
<th>Overall</th>
<th>Scheduled Caste</th>
<th>Scheduled Tribes</th>
</tr>
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<tbody>
<tr>
<td>Primary</td>
<td>29.00</td>
<td>34.2</td>
<td>42.3</td>
</tr>
<tr>
<td>Elementary</td>
<td>50.84</td>
<td>57.3</td>
<td>65.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>61.92</td>
<td>71.3</td>
<td>79.0</td>
</tr>
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Source: Selected Educational Statistics, 2004-05

This clearly pints to the fact that education system has largely failed to connect to the needs of the diverse learners. As Hedegaard argues when development does not proceed it is not the fault of the child but rather the relationship between the child and society. Classroom teaching-learning in India has largely discouraged children’s participation and given no space for children’s funds of knowledge (Moll et al, 1990) to enter the classroom context. The policy direction of centralized curriculum and pedagogy, impersonal examination and ineffective teacher training has failed to build a dialectical relationship between school and community. The problem of detachment has arisen from good intentions: to recruit children to a universal education system and to offer equality.
of opportunity. ‘Unity in diversity’ is one of the most favourite slogans of Indian policy makers. However, there are, I suggest detrimental aspect in relations to the quality of pedagogical practices. Even if a teacher wishes to change the approach to teaching to respond to local factors, the larger administrative system becomes the biggest hurdle. The lack of autonomy at the school level or even at the regional level has meant teaching-learning is one way flow of information. The process is far removed from Vygotskian notions of learning and teaching which were developed alongside a psychology which was meant to help Russia create people who could take it forward into a new world.

The idea that communication patterns between adults and children differ for particular cultures and communities and that these differences have consequences for children’s learning is not new. Many empirical researches like Rogoff, 1990; Rogoff, Mistry, Goncu & Mosier, 1993; Ochs & Schiefflen, 1982, de Haan, 2001 have pointed that different communicative arrangements exist for children across the world and that these arrangements have consequences for the pedagogical practices. The bigger challenge is to conceptualize how the intersubjective spaces might be created and how they influence classroom teaching-learning. The study in this regard uses Hedegaard’s (2008) framework of levels of analysis at societal, institutional, activity setting and personal level to analyse practices at the institutional and community level and how that these practices influence classroom teaching-learning activity.

Sample and Setting

The study involved extensive data collection for 2 months between March 2010 and May 2010. The sample for the study comprised of a classroom with children in the age range of 6-8 years at a Digantar school in rural areas of Jaipur, Rajasthan, India. Digantar has been devoted to rural education since 1987. The achievement of Digantar has made it a resource support agency and an example for various government schools to focus on the quality of education and school environment. Digantar (full name Digantar Shiksha Evam Khelkud Samiti) is a voluntary non-profit making organization and engaged in education for development of reason, and is guided by the principles of justice and equality. Digantar’s search for alternatives in education began on a tiny scale with the school in 1978. The teachers of this school were first trained by David Horsburgh at Neelbagh, Kolar District who also guided the school in initial years. In 1986, the school moved to rural area as it was understood that it was the rural children who continued to be deprived of good education. The focus of the organization became villages on the outskirts of Jaipur. The achievement of Digantar in last thirty years has made it a resource support agency and an example for various government schools to focus on the quality of education and school environment. Digantar’s philosophy is actualised through the Alternative Elementary Education Program (AEEP)
that comprises running four schools in the immediate rural neighbourhood on the outskirts of Jaipur and associated activities. The core agenda of these schools is to develop and promote an alternative system of elementary education i.e. they do not follow the central board or state board curriculum offered elsewhere. They are also the context where Digantar’s ideas of primary education have developed and evolved. The pedagogy followed in these schools is radically different from mainstream schools; the focus here is on learning with understanding, self-learning, cooperation with co-learners and freedom of pace of learning. Digantar recognises that children have different paces of learning and the schools are organised into groups that are multilevel and multi-age in composition. Such a context provides space to explore the nature of intersubjective spaces that are created as a result of constant negotiation at societal and institutional level and influences teaching-learning process. The constant dialogue with the community and giving children’s home practices space in school teaching-learning makes Digantar an ideal place for conducting this research.

The study uses multiple methods for data collection that include: interviews, observation, stimulated recalls, case study and video recording. The overall research design is given below:

**Theoretical/Conceptual Level of Analysis Level of Inquiry Methods of data collection**

| Personal | Children’s and Teacher’s beliefs Teachers, Parents semi-structured interviews and informal interactions with children, Video/ Audio recording, Observation notes |
| Interpersonal/ Social Situation | Pedagogic processes between teachers and pupils, Peer interactions in the absence of teacher, Interactions between teachers Video/Audio recording of the classroom discourses, Observation notes, Documents and Stimulated recall interviews with teachers |
| Community processes/ Institution | Interactions at home, other informal settings and school, Interactions between school and community Interview with parents, Observation notes, |

**Data Analysis and Results**

At Digantar, the community and school were in constant interaction. There were both agreements and disagreements. Realising the need and idea of education at Digantar, the community supported in the construction of the school building and also supports the school functioning but there were occasions when the school’s philosophy and people’s beliefs differed. For example, parents believe that school should be more strict (sakti honi chahiye) and girls should not perform on stage, while the school has beliefs contrary to these. These differences and agreements lead to constant interactions creating space for negotiations. The school’s emphasis on interacting instead of demanding agreement gave the opportunity for the people to come forward and negotiate. These negotiations are an important component in the foundation of the teaching-learning processes at Digantar. It is important to remark here that the teaching-learning process at Digantar provides the opportunities for the children’s world to enter into the classroom. Teachers’ training and
philosophical understanding of the teaching-learning process are the foundations that help in the creation of shared spaces where everyday understandings are brought into connection with the scientific concepts to be found in the curriculum. Some of the points that emerged from the data analysis are:

• The influence of children’s ideas on the teaching-learning process: A children’s magazine (called Batuni) is used for teaching language to children. This brings children’s sociocultural world into classroom, which they find easier to connect with than mythological stories.
• Morning assembly: The morning assembly is not structured in a Digantar school. Each day is devoted to an activity and children can perform whatever they like.
• Incorporating activities like carpentry as part of school’s teaching-learning.
• Sessions on community music and agriculture.
• Community and school meetings which create platform for dialogue between school and community.

(The final analysis using Hedegaard’s (2008) level of analysis model is in preliminary phase, I am not presenting it here)
Play has been described as the ‘work’ of children: Paley (2004) reveals engaging and persuasive demonstrations that fantasy play is the medium, bar-none, for working through questions of developmental and social import and solving both intellectual and relational problems in a preschool classroom. Many theorists, researchers, and practitioners agree that play serves to create building blocks for cognitive, linguistic and socio-emotional development, reduced stress reactivity, and enhanced problem solving (Bornstein and others, 1997). Language may also set off a process of differentiation between planning and the play-enacting phases of early pretence play (Musatti and others, 1998).

Most studies of children’s play are at a disadvantage because, being adults, researchers have difficulties ‘seeing’ what they are studying from a child’s point of view. Studies of very young children therefore rarely generate ‘inside information’ as can studies of older children’s play, where participants might provide researchers with some information on their perspectives. From our observations of five active little girls in their respective family contexts in different locations round the world, play appears much more than work for them, it is leisure too and moreover, it is their preferred way of engaging with and being in the world – indeed, it is their ‘culture’.

This paper investigates the formats and functions, the contexts and contents, and the material and human affordances of imaginative domestic play themes of children in diverse locations. Like Pellegrini (2009), we privilege means over ends in determining that play is being enacted and expect play to be both voluntary and, while children often have implicit purposes, even aims in their play, play is non-functional from an adult perspective. The terms imaginative, pretence, make-believe, and fantasy play are used here interchangeably.

The present socio-ecological study of thriving toddlers in their homes is designed to shed light on variations in their enactments of their life of play in diverse contexts, and the variations on themes they draw into service in their engagement choices. Goncü and others (2000) have stressed the importance of cultural perspectives in the investigation of play. Our study advances this agenda in several ways. Few studies have examined play in children’s own homes; most, focus on early educational contexts such as nurseries and kindergartens. Secondly, little girls were selected because the relatively natural and spontaneous activities of girls have been an especially neglected aspect of the history of research in early human thriving.

Although play is argued to enhance many aspects of psychological development, definitions and operationalisations of play have been problematic. Fromberg and Bergen (1998) carefully and fully
laid out not a single approach to play in early childhood, but included in their purview a wide range of perspectives across the developmental spectrum, the large variety of contexts in which play is to be identified, and the meaning that can be made of play in all its formats in healthy development. We have settled on requiring for selecting play episodes that it be freely engaged in, not dictated from outside (although might be influenced or stimulated in some albeit small way, even simply by providing a toy or receptacle), and that it have a positive hedonic value. We examined engagements where the children acted ‘as if’, focusing for this study on symbolic play, in part because it is relatively easily agreed upon as different from other play forms, simply requiring that the child be engaged in representational activity with adult reality held more or less at bay.

Methods

Participants

In this research, five 30-month-old girls were recruited in Thailand, Italy, Peru, the US, and Turkey: These toddlers were selected in their local communities by members of an international team of researchers investigating strong early childhood beginnings in cultural context

Procedures

Following receipt of a full explanation of the visual methods of the study and potential limitations to anonymity due to the filming of a day in their lives, parents were interviewed about their approaches toward childrearing and they provided demographic information in advance of the commencement of that observational day. Each child was filmed for a full waking day by a local team of researchers who additionally took field notes, and drew maps of the surroundings. Distal colleagues selected what they thought were ‘significant’ segments across the days from these semi-naturalistic materials to make a composite half-hour visual record for parents to reflect upon in terms of their child within her home environment. The Authors (2006) describe this methodology in detail. From these data our international team has probed the footage for themes of interest including security strivings, humor, eating events, safe spaces, emergent symbol systems, and musicality (Authors, 2010). Play has not previously been explored as a social ecological theme in our published writing.

Analytic procedures respecting play

Two team members inspected the video footage, field notes, and home plans to identify all instances of imaginative play evident in each case-study data set. The examples of play were then considered for their potential to reveal 1) the diverse roles the children played in their self-selected activities, 2) efforts made to enlist participation or involvement of other family members, 3) the locations chosen, and 4) the materials chosen with which to engage. The selected play passages from each day were first analyzed by one of the investigators most closely allied with the local
Findings

Observations were selected from the streams of play that emerged during the fivedays of video data, to provide a sense of the many ways in which the children enacted domestic play and the many contexts that gave rise to their playing. Some passages have extensive amounts of dialogue, and others, less. Grabbed stills from the footage convey the immediacy of the play in situ.

Discussion and conclusion

As we have said, there are innumerable incidences of imaginative play activity in each child’s day, so many so that it is hard for an observer to be sure where one ends and the next begins. The day in the life visual methodology is ideal in its affordance of opportunities to revisit passages of interactions and capture emotional tones of interchanges that might escape the purview of more constrained methodologies. Spending a full week watching videos of the waking hours of the days in the lives of 30-month-old girls convinces us that these children are urgently impelled to spend as much of their days playing as they possibly can. The familiar adult-defined categories of play: language play, physical play, social and solitary play, dramatic play, and fantasy play, any and all of these activity forms can be seen to emerge in seamless and integrated ways. When at all possible, the toddlers turned mealtimes, car rides and traffic jams, domestic spaces and bedtimes into fertile occasions upon which they mounted the dramatic actions of their thoughts. They employed artifacts and raw materials that came to hand; they used duty-built toys when available to play with; they constructed likenesses of objects they wish to incorporate into their world of play if none were handy. And their caregivers reported often finding it better to acquiesce to rather than resist their child’s play imperative. Some families initiated and joined in (as best they could) their child’s play activities, others set toys out so children could ‘amuse themselves’, others simply tolerated at least some of their child’s playful engagements.

The importance of context in studying play in different cultures (Roopnarine, Johnson, & Hooper, 1994) brings us to address questions about the significance ascribed to play in early childhood education, that is, in day-care centres, kindergartens, etc., structures designed for children in different cultures and contexts. Viewing the play of these wonderfully different children in diverse home contexts two common threads overwhelm. The first is the ubiquity of the children’s wish to engage in play and the second is its apparent intensity of purpose. Play seems not an optional activity that children sometimes do if they can, but rather, the little girls appear impelled to enact imaginative play with whatever and whom-ever comes to hand. It is their comprehensive means of engaging with and understanding the physical and social worlds around them. Efforts to divert this
energy and enthusiasm to other ends would seem from our research both vain and counterproductive of healthy, normal development. Arguments that this child-governed activity be put to the service of adult-determined learning and curricula would run the risk of leaving children bereft of their naturally constructivist adaptive impulses.
A socio-cultural approach to aphasia: contributions from the work developed in a Center for Aphasic Subjects

Rosana do Carmo Novaes Pinto

The main goal of presenting this paper at ISCAR/2011 is to socialize the results that we have been attaining for over 20 years of work and researches in the field of Neurolinguistics – in the Department of Linguistics/IEL (Language Studies Institute), State University of Campinas (UNICAMP), São Paulo, Brazil – emphasizing more specifically the activities that take place at CCA (Centro de Convivência de Afásicos) – a center for aphasic subjects.

The program developed with the subjects who attend the weekly group meetings (and also the individual weekly speech-therapy sessions), is planned and carried out by a team of researchers from the Department of Linguistics and by under-graduate and graduate students from Linguistics and Speech Therapy courses. All the sessions (individual and group meetings) are video-recorded and afterwards transcribed and analysed according to the microgenetic paradigm (Vygotsky). Data collected consist of dialogic interactions among aphasic and non-aphasic subjects, in which they are encouraged to talk about several themes – they can tell about their lives and their families, about national and international news they have seen on TV, discuss the results of soccer championships or other sports, argue about politics, and so on. We also conduct activities in different discourse genders (argumentation, poetry, proverbs, letters, journalistic language, charges, and all kinds of narratives including autobiographic, fables, jokes, and so on). By doing so, at the same time they expose their linguistic-cognitive difficulties and also are oriented/helped in order to (re)organize language, memory, attention etc and recognize themselves as subjects, despite the limits imposed by the pathology. Besides, the data obtained during the dialogical episodes influence the theorization about language in normal and pathological states and indicate productive ways for conducting adequate language therapies, centered in meaningful activities.

The group is very heterogeneous regarding the types of aphasia and severity. Our aim is not classifying the subjects according to etiological causes – whether they have had a brain stroke, a traumatic injury, a tumor etc, neither classifying them according to oral or written production/understanding difficulties. We believe this heterogeneity is constitutive of human relations and our experience with the aphasic subjects has shown that this is, in fact, what enriches the interactions.

In order to better understand the linguistic-cognitive work developed with the aphasic subjects, it is necessary to present the theoretical and methodological principles that guide our work in the field.
that we have been calling either “Discursive Neurolinguistics” or “Enunciative-Discursive Neurolinguistics” – a socio-cultural approach to investigate the relations among language, brain and cognition. Basically, it differs from traditional approaches which are centered in organic/biological basis and validated by quantitative and statistical methodologies and also, nowadays, by neuroimage, which is extremely valorized in contemporary neurosciences. An evidence of this tendency is the number of scientific papers published in the top-graded journals around the world in which the method and the models have the major relevance, being the subjects or the subjectivity simply discarded. Indeed, in most of them, individual variations are not taken into consideration at all because they question or invalidate the theoretical models. In our point of view, on the contrary, the subjects and the individual variations enlighten the real language functioning and helps us to fully understand the concept of Complex Functional System – as it was postulated by Luria. The studies of aphasia in this perspective began in Brazil with the work of Coudry, in 1986. The author criticized the methodology used for evaluation and especially for therapeutic purposes, which is based exclusively on the results of assessment validated tests and on metalinguistic tasks, emphasizing only the language and cognitive losses and deficits. Coudry defended that only a longitudinal and qualitative approach, that takes into consideration what is still preserved in the language system and also considers his/her pragmatic and discursive competence can account for the complexity of any kind of aphasia. She proposed language-cognitive evaluation and therapeutic principles based on what we call “effective use of language”, in real social interactions. This theoretical-methodological framework gave origin to CCA, which nowadays has three groups, one of which I coordinate. The enunciative-discursive neurolinguistics is based, on one hand, on the socio-cultural approaches developed by Vygotsky, who highlights the importance of the mediating role of language for the development of all the other complex functions and of thought. In other words, it is not simply - or only - an instrument of communication or of reasoning, but it also shapes our understanding of the world and cultures. Besides, for both – Vygotsky and Luria - language and cognitive development are highly dependent on social interactions. There is no integral possibility of cognition without the acquisition of a language, neither it is possible the acquisition of a language without social-interaction. On the other hand, the theoretical-methodological framework of the discursive neurolinguistics was also constituted by the contributions of Discourse Analysis, Pragmatics and Enunciative-Semantics, as well as by the studies of Language Acquisition, in a socio-interactionist perspective, developed at IEL since the seventies.

Our locus for the observation of aphasia, therefore – and also other diseases which affect language, like Alzheimer, Parkinson, Dyslexia, Epilepsy, etc – is multidisciplinary. Within this perspective,
we emphasize some limits of formal analysis to understand linguistic phenomena involved in pathologies, once they are mainly based on isolated units, such as words and sentences, focusing the basic linguistic levels: phonetic/phonological, lexical, grammatical. Directly or indirectly, the linguistic approaches known as structuralism and the generative grammar still have influenced most of the assessment tests used in scientific researches and in clinical practice, often associated with quantitative and statistical methods. Although this formalistic approach may enlighten mechanisms involved in language processing and allows the developing of theoretical models, it does not clarify important aspects of real language functioning, which is of fundamental relevance not only to describe and evaluate the alterations, but also to provide adequate intervention.

Linguistic theories developed in the 20th century, such as Pragmatics and Discourse Analysis – and especially the contributions of Bakhtin (in the Philosophy of Language) - offer valuable concepts and tools to a better understanding of language disorders, associated with longitudinal and qualitative studies. In other words, the work we develop with the subjects, as well as our linguistic-cognitive analysis focus on what is still preserved in language, memory, etc, despite the subjects’ brain damages or degenerative processes.

Besides comprehending underlying processes to the production and understanding of language in normality and pathologies, it interests us to help the aphasics develop alternative strategies (verbal and/or non-verbal) in order to achieve signification and to resist as much as they can as social and linguistic subjects.
This paper is framed within a 3-year R&D-project at the Åland University of Applied Sciences (ÅUAS), aiming at changing the current practice related to the final diploma project (a thesis of 15 credit points) for the bachelor degree. A survey preceding the project showed that a majority of students within the Maritime programme never completed their studies. This has become a problem on three levels: firstly, the individuals experience failure in their studies and thus they don’t get the job they where aiming at by attending the education. Secondly, on the organisational level the student drop-out is defined as a quality problem. Thirdly, the shipping industry cannot, due to international security regulations, employ these students as anything but seamen. Well aware of the problem, ÅUAS had already made efforts to improve their education. Rhetorically, the thesis (although a problem) was considered an important part of the education. Based on an activity theoretical perspective the diploma project was presented as an educational action central to the Maritime programme (Engeström, 1987; Leont’ev, 1978). Being described as a central action the problems can be seen as somewhat contradictory (Engeström, 1987).

The R&D-project, here presented, was initiated by ÅUAS. A short-term aim was to help this group of students to complete their thesis and thereby finishing their studies with a bachelor degree as master mariners. The long-term aim was to identify needs and initiate changes in the educational practice.

The project started with an investigation aiming at mapping the problem from the perspective of central actors. Teachers and management ascribed the problem as related to academization of the education, resulting in a diploma project “of no use” for students’ future career as master mariners on the one hand, and in students’ “lack of motivation and laziness” on the other (Berthén, Eriksson & Lindberg, 2006; Haggis, 2003; Hagström, 2005; Mulligan & Kirkpartick, 2000).

Interviews with students, however, gave a different picture, indicating that the diploma project was peripheral to the programme. Students were scheduled for the diploma project during three semesters in total, but mostly for random free periods and a few occasional days. Further, these periods and days were cancelled when time was needed for something else. Also, it was common that students had no idea of who their supervisor was and no supervision was scheduled. According to the students, asking for help meant increasing the burden of the teachers.

Based on these findings, intervention studies on three levels were designed: hands-on teachers’ supervision work (intervention in action), in-service course on diploma projects and supervision as part of polytechnics/professional higher education (intervention for action), and organising for
diploma project (organisational level, intervention for action).

The issue of this paper is to discuss the indications of change that we have identified at the end of the project. The preliminary result shows that teachers’ conceptions of the diploma project have changed. This is shown in their talk and actions when meeting the students. Both those enrolled in the project and those that still are participating in the education. The diploma project is now seen as a possibility instead of as a problem. In addition, the teachers’ have started to address the management with requests of time – scheduled supervision with students, time for teachers to develop their supervision collaboratively. Based on these indicators, we argue that the project has contributed to the diploma project have (at least partly) becoming a central educational action. Instead of leaving the students to their fate when it comes to accomplishing a thesis – on their spare-time and beside the regular programme – it seems to becoming a part of the programme and supervision something more than certifying whether the students have managed on their own or not.


The project described in this paper is about bottom-up educational change based on teachers’ innovations in classroom practice within one college in Iceland from autumn 2009 to spring 2011. The aim of the action research group is to find out new ways to encourage the students at the college to become more active learners and take more responsibility for their studies. My research design involves a hybrid approach in combining a Change Laboratory and action research. I believe that action research and activity theory have some important insights into learning that is valuable for professional development and school improvement. I like to connect them together in my research because jointly I think they will enrich and expand the process of professional development and changes in classroom practice. The Change Laboratory will provide the conceptual framework and tools to analyze what changes are needed and wanted in classroom practice and the action research provides the approach to guide the participants when carrying out and evaluating these changes.

The Change Laboratory is one type of developmental work research methodology advanced by Yrjö Engeström for the expansive learning of researcher and participants in cooperation to create new activity at work (Pihlaja, 2005, p. 185). It is based on Engeström’s theory of the cycle of expansive learning and on Vygotsky’s method of double stimulation (Engeström, 2007, p. 364). The intervention takes place through planned meetings where the participants and the researcher take part in organized debate and dialogue about the history, current contradictions and the future possibilities of the practice under study (ibid, p. 370). The first stimulus is the “mirror” in which the group identifies problems in the workplace by examining experiences or data from the workplace. The second stimulus is the “model”, a conceptual framework of the activity system. These stimulus or “surfaces” are the central tools of the Change Laboratory with the third surface of “ideas or tools” in the middle where new ideas about practice are produced and tested. The practical work of the participants moves between these three surfaces and also between three time points of past, present and future. At last the new vision is planned and experiments with the new solutions carried out and evaluated (ibid, p. 370-372). It is possible that some of the participants will reject this second stimulus and choose for themselves an alternative second stimulus (Sannino, 2010). This can be interpreted as an act of resistance to the intervention but the resistance can be a sign of an ongoing process of dealing with personal conflicts that will in the end give the person agency to
innovativeness in the practice (ibid).
The action research is based on the ideas of Jean McNiff and Jack Whitehead that befits the living theory approach. It places the individual ‘I’ at the centre of an inquiry with the question: How can I improve my practice? But the individual sees himself always in relation to other people weather they are present in time and space (McNiff & Whitehead, 2006). The individuals go through the action-reflection cycle; the process of “observe – reflect – act – evaluate – modify – move in new directions” (McNiff & Whitehead, 2006, p. 9). The process is like a spiral because it never ends, when you have reach a provisional conclusion, that point itself will have raised a new question and the cycle starts again. The aim is to improve practice and generate new theory of practice, a living educational theory. The starting point is when the practitioners experience and recognise themselves as living contradictions because their values are denied in practice (Whitehead & McNiff, 2006).

Contradictions are the necessary power of expansive learning and contradictions are the driving force of change within the activity system according to the Activity theory. (Edwards, 2008; Engeström, 2001; Engeström, 2007, p. 4; Engeström & Sannino, 2010). According to the theory of expansive learning contradictions can be identified at four levels. Contradictions at the first level are primary and appear within each component of the activity system for example between an ideal type and the reality of practice. Contradictions at the second level (secondary) appear between two elements of the activity system. Third level (tertiary) contradictions appear between new and old forms of practice when changes take place within the activity system and some people resist the changes. And fourth level (quaternary) contradictions appear when changes in one activity system call for changes in another activity system or activity systems need to work together in order to co-configure their activity (Jóhannsdóttir, 2010).

The outcome of Change Laboratories can be judged in three different ways (Cole & Engeström, 2007; Y. Engeström, 2010). Firstly, it can be judged by their practical outcomes i.e. actual changes in the practice, and that can relate to all the different parts of the activity system (Cole & Engeström, 2007, p. 494). Secondly, by changes in the quality of the discourse of professionals (ibid, p. 495). And thirdly, by the formation of new theoretical concepts that can be implemented and developed by the practitioners (ibid). Engeström (2010) has stressed the importance of the theoretical concepts being grounded in or “material anchoring” in the practice i.e. written down in a useful way, for example in a pamphlet and implemented and actually used and developed further by the practitioners (Engeström, 2009; Engeström, 2010).

We will evaluate the outcome of the Change Laboratory at individual, group and system levels. This will be done by evaluating practical outcomes of the individual action research projects designed to enhance active learning, by analysing qualitative changes in the discourse at the action
research group meetings and by formulating and implementing new concepts about the changes that will be made in classroom practice relating to active learning. The concepts will be introduced by the group to the whole teachers’ community in the college and then developed further by the practitioners.

The main pedagogical cooperation between teachers is within faculty groups but the action research group is an exemption as it is both cross-subjects and a mix of professionals and managers. It has also fostered a change in the teacher-student relationship where the students’ voice is more heard and the students are more active learners. Therefore I think that this project has the potential to encourage knotworking of the participants and the possibility of the co-configuration of their professional development where “a living growing network develops between customer, product and company” i.e. the teacher, the student, the learning and the college (Victor & Boynton, 1998, p.198-199 as cited in Engeström, 2008, p. 195). Knotworking is the typical interaction mode in co-configuration according to Engeström and is characterised by performance involving tying, untying and retying different aspects of activity by loosely connected persons and activity systems (2008). They could be crossing the boundaries between different activity systems within the college i.e. for example the systems of teaching, faculty, action research and managers. For this purpose I think it is useful to look at the college as a network of interconnected activity systems but not as a single structure with only one power system.

References


Becoming literate involves a wide range of experiences and skills. From a culture and activity approach, particular attention is to be paid to the ways whereby children come to appropriate writing as a key to communicate with others, learn and think in different areas with different purposes. Given the widespread use of a large variety of graphic texts in contemporary societies, present day literacy demands a wider perspective – it should be viewed as involving a variety of representational systems deployed on bi-dimensional surfaces, such as numerical notations, figurative drawing, photographs, maps, graphs and calendars, among others.

Young children are typically described as having difficulty with the notion of time. The implicit comparison with adults seems especially unfair in this case, since adults have access to a variety of cultural tools when dealing with time. These are usually not available to children.

The study of kindergarten children’s dealing with time when supported by relevant tools can provide us with an opportunity to examine children’s thinking and its development in the context of a cultural practice most relevant in technologically advanced societies. From a Vygotskian standpoint, one of the essential characteristics of this practice is that the intelligent human action involved in it is mediated by cultural tools of different kinds - material artifacts (such as clocks and calendars) on the one hand, and symbolic external representations (such as language and drawing) on the other.

Tools of different kinds may impact learning in different ways. The difference between pictorial and verbal representational systems can be looked into in terms of their affordances. A central question both from a developmental and an educational point of view is which the functions are better served by different kinds of representational tools. Related questions are: is it task dependent - for instance, related to the goal of the task; what is the impact of the socio-cultural context in which the task is embedded; and whether within different knowledge domains, there are different affordances associated with different notation type. It has been claimed that in certain contexts meanings can be made with visual representations in a way that is not possible with other resources such as language.

Calendars are instrument that may enhance learning about and communicating location of events in time, their sequence and the distance between them.

By doing so they might contributes to the consolidation of certain aspects of the concept of time.
The traditional view holds that for this graphic representation to be a scaffold in children's temporal conceptualizations, children need to be acquainted with the syntax and the semantics of the particular graphic non-verbal language involved in it.

The aim of this study was twofold: a) studying whether a specific spatial-graphic tool – a weekly calendar- enhances children's ability to locate events in time; b) learning about the variation in children’s performance with two different representational means- namely, drawing and writing.

The research questions, within the framework of a Vygotskian approach, were: 1) Are young children conversant with “the rules of the game” involved in mapping time into space in a weekly calendar? 2) Are there content associated preferences in children’s choice between writing and drawing in the production task? The study was carried out within the framework of a Vygotskian approach. Our research questions were: 1) Are young children acquainted with or able to acquire “the rules of the game” involved in mapping time into space- representing spatially the weekdays sequence and current day as orally expressed- in a tool such as a weekly calendar? 3) Are there content associated preferences in children’s choice between writing and drawing in the production task? 4) Do these representational systems have a different impact upon children’s oral production?

Method

Sample 68 low SES Israeli children, aged between 42-79 months.

Procedure The children were individually interviewed in a quiet room adjacent to their preschool or kindergarten class. Questions about weekdays list and same, previous and following day questions were followed by those concerning favorite activities, such as:
• What did/will you do today/yesterday/tomorrow? Or What is your favorite Kindergarten / home activity?

Children responded orally and were asked to locate whichever activity they mentioned a) by saying and pointing at the day in the calendar b) by writing or drawing the mentioned activity on a small paper square. Once they had completed the writing or drawing they were asked to stick it on the corresponding day.

Their responses were registered in a protocol which included both oral and gestural responses.

Tools a cultural tool, consisting of a graphic representation which charts the seven week- days, including morning and afternoon of each day: a weekly calendar.

Tasks The task was designed to investigate the relation of conceptual, procedural and symbolic aspects of the notion of time. The task involved children's "notating" (by whichever notational means suited them) the occurrence of weekly events on that chart.

The following comparisons were made: a) between children of different age groups; c) between
children’s use of drawing and their use of writing in the performance task.

Results The results of these comparisons showed: a) Children do manage to map time into space in a weekly calendar: they have a notion of what a weekday is and correctly locate it in the calendar. About one third of the children know the weekdays sequence and get a mapping score ranging between 0.62 and 0.73; b) children’s ability to deal with the graphic representation of time sequence is positively correlated with age, the big jump being between the ages of 4 and 5; c) There is an impact of content upon children’s notational performance manifested in their choice between drawing and writing when representing events in the weekly calendar. When children mentioned person’s names, most of the choices were writing.

Different impacts of writing vs. drawing were found upon children’s oral responses: while writing induced brief labeling of events, drawing induced lengthy descriptions and narratives. Children basically chose to draw but occasionally used writing when the content was inadequately conveyed otherwise.

A particularly interesting and unexpected finding involved what I called: figurative factors” following Piaget. It turns out that some children did not stick the square of paper in the same slot they had previously pointed at. This occurrence was associated with a variety of situations: the common denominator to all of them was that they did not “look right” to the children. In some cases there was an event already in the column of the relevant day, so that some children did not accept the idea of putting a second event on the same day while there were still days without any events at all. In other cases, they refused to stick the paper because it meant leaving an empty space after a whole series of days already marked, which were one after the other. The interesting point in this case is the gap between the children’s ability to locate the correct day, on the one hand, and their inability to overcome what appears to be their perceptual feeling of “the right look”.

This is a very fundamental issue from both a theoretical and an educational point of view.

Given that the great advantage of the paper calendar is its being spatial, the issue of the misleading impact of the figurative factors underscores the fact that the very same feature which supports time conceptualization may be misleading under certain circumstances. From an educational point of view, awareness of the misleading impact of figurative factors can be minimized by designing the activity in such a way that when the children interact with the calendars, they become less salient. Contrary to the traditional view which sees grasping of the “rules of the game” as prerequisites for calendar use, I claim that it is the interaction with calendars within the context of meaningful social practices which leads to the appropriation of the rules.
While the “individualistic-mentalistic approach” considers the development of human competencies as a process situated inside the individual, a socio-cultural approach emphasises the development of action competences as situated in and across different socio-cultural contexts. Human development of actions competences occurs through participation in practices embedded in particular power relations which directly or indirectly affect which competences may be developed. From a socio-cultural perspective action competences are always object-related; the pertinent tasks (and other parts of the objects of a competence) largely determine the content and shape of the competences. Defining the task and arranging the practice and the context in which the task is to be performed, also largely defines the demands for competence, which affect the subject’s possibilities of participation and mastering tasks. In the paper, human development of action competences is understood as the processes and mechanisms that to a varying degrees, by virtue of human activity, enable the subject to participate fully in social practices in and across different contexts as well as to achieve particular goals and master specific tasks associated with these practices. It is also argued that the concepts of action competence and competence development play an overarching and unifying role in the interplay between qualification and personal cultivation. The subject develops various action competences of greater or lesser value in relation to society’s general, formal requirements for qualification and to the local, informal requirements for personal cultivation which the subject encounter in various socio-cultural practices and contexts. Human action competencies are understood as social and cultural artefacts, mediating the subjects’ relations to his/her surrounding world. The paper proposes a concept of human action competence composed of five general components: 1) Knowledge; 2) Skills; 3) Control over relevant external conditions; 4) Identities and 5) Readiness to act. It is argued that these main components are developed in a dynamic relationship, where each of the parts influence each other in a mutual manner, serving as a basis for the subject’s activity and participation within and across different socio-cultural contexts.
1. INTRODUCTION AND BACKGROUND

The research project AQUIMO (AQUIMO, 2010) developed an adaptable modeling tool for mechatronic engineering in companies that are engaged in mechanical and plant engineering and created a related qualification program. (The term “me-chatronics” is a portmanteau word uniting mechanical and electronics engineering, hence representing the combination of mechanical engineering, electronic engineering, and information systems engineering. This combination of three engineering disciplines in an interdisciplinary design process aims at a higher functionality in technical systems (Bradley, Loader, Burd & Dawson, 1991)). The project was supported by social scientific research concerning the socio-ergonomic issues in interdisciplinary projects and communities. In the early stage of the project the main question in social research was to investigate difficulties that emerge in interdisciplinary collaboration in the division of labor between the three disciplines. These difficulties are thought of as representing specific requirements for the modeling tool and the qualification program to be devised by the project. Later in the project the implementation of a new computer based tool was reviewed and the formation of a new mechatronic work team was accompanied by the social researchers. For the social scientific research on collaboration in the interdisciplinary community of engineers, a formative approach towards evaluation was chosen. This approach based on activity theory, since this form of action research is well matching the demand of an accompanying analysis of the technological development from the perspective of social research.

2. THEORETICAL FOUNDATIONS AND METHODS

In his comprehensive work on activity theory, Yrjö Engeström (Engeström, 1987) outlines a research methodology for the exploration of activity systems. Here, he devises the program of “developmental work research”, connecting to the tradition of the action research. Modeling and understanding activity systems using a triangular structure allows for integration of an individual perspective with a social perspective by relating to tools and signs, to artifacts as well as to rules and division of labor. In activity systems, participating practitioners are considered as experts for their field of action, as it is a basic assumption within the program of action research. As Reason and Bradbury explicate (Reason & Bradbury, 2008), the range of proposition for action research spans first- to second- and third-person research in practice. In that way, experience, knowledge and research ascertained by action research can be relevant for the
individual, for the face-to-face inquiring group and for the wider community. In the study discussed here, local face-to-face groups in the participating companies are not only involved in changing their local activity system. They also take part in a broader discussion of changing work processes in engineering fostered by new technologies. The ethnographic examination in this field of engineering practice was targeted on winning a very comprehensive overview about the interdisciplinary collaboration between the mechatronic disciplines and at identifying double binds, contradictions and difficulties in this area. The results of this examination should have determined the requirements for the development of a shared tool for mechatronic engineering, for an interdisciplinary engineering process, and an adequate qualification program within the project from an ergonomic perspective.

For the investigation in question a triangulation of different methods in the sense of a “between-method” approach was chosen. Different methods of interrogation addressing different research objectives were combined in order to get a highly differentiated picture of the difficulties in interdisciplinary collaboration in mechatronic engineering. The methodic used several methods due to different intentions:

- individual guided interviews (Witzel, 1989) to capture subjective perspectives in an atmosphere of trust
- the structuring and visualisation of statements by means of concept maps (based on the Heidelberg structure formation technique, i.e. the Heidelberger Strukturlegetechnik (Scheele & Groeben, 1984) to mirror the data to the group with the support of the computer-based tool of the network elaboration technique MaNET (Eckert, 2000)
- group discussion (Lamnek, 2005) to integrate the individual views and work on first solutions with the local community of practise

The findings of the local case studies were discussed in the project group and in the wider community of practice. This influenced strongly the further development of the project as a whole.

3. RESULTS

On the theoretical foundation of the findings, the involved practitioners can design actively and critically the activity systems of mechatronic engineering in the involved companies. In doing so, expansive learning was facilitated in two respects. On the one hand, the engineers who participated in the study learned about their contradictions in everyday work, and thus discussed and implemented new ways to organize their local community of practice. On the other hand, the confrontation with the findings from the studies supported the project partners to create an innovative mechatronical modelling tool and to identify competency needs, which are addressed by
qualification. The reflexion and discussion of the project results in the wider community of mechanical and plant engineers initiated similar change processes in other companies.

- Discipline specific tools obstruct a systemic view regarding the product. This is a consequence of the history, development of science specialisation. While mechanical engineers are used to read technical drawings both in 2D and specified projections of 3D, electrical and electronic engineers use circuit diagrams and wiring plans, and soft-ware developers work with program code and with a range of notations from UML (like class diagram, swim lane flowchart). Specific software tools, from CAD to integrated development environments (IDE) are used for these different formalized documentation methods. Originating from different engineering disciplines, these tools usually are not integrated and are therefore limited in interoperability. As the work of engineers is strongly affected by tools to handle the complexity of the product this finding confirms the necessity of a mechatronical software tool as it is developed in the project. The task of this tool is to offer a common view on the shared aspects of the object and to offer an interface to the specific tools of the three mechatronical disciplines.

- Even shared terms, definitions, data and experimental knowledge do not necessarily provide a common ground for collaboration. The conflicting use of terms or language adds to the difficulties of collaboration. In activity theory, terms and language are essential instruments for the reference to the object of agency in an activity system. Different terms result in separate objects of activity, and in separated activity systems. In the project AQUIMO, a shared software tool for modeling mechatronic components by means of a formal notation of all relevant data in an interdisciplinary model is considered the key approach towards a common understanding.

- A lack in the flow of information can be stated as another common difficulty. Detailed information, such as specifications, calculations, parameters, is arriving to late or not at all. Often the reports give not enough details, since a mutual understanding concerning specific details is not expected between the disciplines. These barriers in collaboration relate to both the instruments and the division of labor in the activity system. Advancements in usability and utility of the modeling tool, which is considered as a shared instrument, may improve the quality of communication. However, the workflow within the community relies on rules and a functional division of labor as well.

- Perspective taking and deeper understanding for the needs of the other disciplines are essential for an efficient design process. Interdisciplinarity in engineering is affected by self-perception of the involved disciplines. In all three companies the employees narrowly focus their own discipline. Tasks that are necessary for the product, but not reasonable for the own discipline, are regarded as side issues or even as a chore. The awareness of interdisciplinary collaboration is given, but has no
priority. The discipline specific tasks are regarded higher and more decisive compared to those of the other disciplines. Hence, the different disciplines may well join forces in engineering; however, they still do not share a joint object in their work. The desired shift towards interdisciplinary engineering still requires efforts to establish a shared object of work. This can be supported by qualification based on developmental work research in local communities of practice. All this results show clearly the complexity of the change processes. This is the reason why practitioners of the local community of practice are not able to find sufficient solutions without support from the outside. There is a need of new methods, instruments and attitudes which cannot be developed in the local community of practice. In this way, developmental work research acts as intermediary between the local requirements and the offers from the related community of practice on the double path of expansive learning in this socio-technical change process.
There is an assumption that lecturers of the 21st century will naturally introduce technologies in their teaching. I suggest that lecturers’ motives change as they investigate the purpose of their activity and in this way contribute to the joint construction of new activity models in their work. The central issue of ‘engagement with educational technologies’ remains the object which may lead to further expansive learning cycles as a result of their collective activity (Stetsenko, 2005). Activity theory adds a formalized structure to these dynamic human interactions (Engeström, 1999) and acts as a heuristic to better understand zones of proximal development within the learning process (Wertsch, 1984). Lecturers are continuously changing and learning as they expand their involvement with others in the community and the tools that the community uses. In this view, learning is social and cultural rather than individual (Kozulin, Gindis, Ageyev & Miller, 2003).

The activity system where the lecturer carries out the activity of teaching and learning with educational technologies may be the knowledge construction site but it can also be seen as the zone of proximal development (ZPD) of these lecturers - the theoretical space that provides learning scaffolds (Bentham, 2002). Vygotsky (1986) suggests the intervention of a more able peer in this process, but I argue that the technology itself could fulfil this mediating role. This differs slightly from Vygotsky’s view that individuals left to their own devices to construct knowledge for themselves are unlikely to be stretching their intellectual capabilities. At the time when Vygotsky conceptualized these ideas there were no educational technologies that could, to the extent found today, replace the human mediating presence. Currently I would argue that technology may be able to provide interventions that ‘extend’ the human mediating function as proposed by Vygotsky. Zinchenko (1995) concurs that certain ‘technologies’ can become a “functional tool”. In other words, the lecturer is not left alone, as the technology mediates as the tool, or functional organ” taking the place of the ‘other’.

Stages in the expansive cycle are used in this paper as an analytical, explanatory tool. This is in contrast with Engeström’s use of the heuristic as a developmental, interventionist tool in workplace learning. I also prefer to use the language of description as proposed by Bernstein (1996) rather than the language of development as used by Engeström in more recent publications. I contend that expansive cycles within activity systems are best described using this language of description which elaborates on the interface between theory and the empirical world. According to Engeström (2001) “a full cycle of expansive transformation may be understood as a collaborative journey through the
zone of proximal development (ZPD) of the activity.” In this process, extended cycles of expansive learning occur and workplace transformations, questioning of the ‘system’, and a move away from what has been done in the past sometimes escalates into a “deliberate collective change effort” (FitzSimons, 2003). Every individual’s expansive cycle will, in other words, be unique and form part of the complex set of contradictions that continuously drive the activity systems (Barab, Barnett, Yamagata-Lynch, Squire, & Keating, 2002).

The expansive cycle at the university begins with an ethnographic analysis of the situation within the Education Faculty where lecturers begin to question their activity by jointly analysing problematic situations. They may include systemic and historical causes of the problems. Lecturers may then reveal inner contradictions of the system by designing a new model of the activity. Transformation of the model follows when the lecturer adapts the structure to find a new representation of the activity that resolves tensions between components of the activity system in an expansive way. They may then find new interpretations of the purpose of the activity (object), new ways of thinking about it, and create a new activity model. Implementing the new model of activity is followed by testing and transforming teaching practice by designing and implementing new tools and solutions. Reflecting on new practice and consolidating it is best represented when lecturers teach others what they have learned and begin to develop new rules for the system.

Engeström’s (1987) notion of expansive learning offers the opinion that expansive learning activities within institutions produces culturally new patterns of activity as well as new forms of work activity (Engeström, 2001). Most lecturers in this inquiry were doing so as novices and did not get to develop drastically new forms of activity. In other words, they did not fundamentally change the way they teach using educational technologies. It may be that lecturers are constantly attempting to learn about something that is non-static. Technologies are constantly advancing and lecturers still focus too much on the technology itself (the tool) and lose sight of the object of the activity. Furthermore, in transforming personal, organizational and professional practices, lecturers are expected to “learn new forms of practices which are not there yet” (Engeström, 2001). These practices are usually learned as they are created without the intervention of a more competent teacher. I contend that lecturers only make meaning with technology in their teaching when they start modelling new solutions and examining opportunities for the production of culturally new patterns of activity.

By initially questioning existing standards of practice, lecturers begin the cycle of expansive learning and some even progress to analyse the inherent contradictions in the activity systems. Few have progressed to a level where they actively model a vision for teaching and learning with educational technologies or examine and implement the new model in practice. The expansive
cycle, as described by Engeström, must be seen as a necessary part of this process. Scholarly discussion and interaction between activity systems must inform the developing models of policy makers, researchers, students, and lecturers. Engeström’s model allows for this creativity and interaction between activity systems. Expansion from the individual lecturer to collaboration within a healthy community of practitioners engaging with educational technology at the university is an ideal start for the expansive learning process (compare Stetsenko, 2005) - without ignoring the importance of individuals operating within their individual ZPDs.

In conclusion it can be noted that individual activity systems within the university may be seen as knowledge construction sites or the zones of proximal development for lecturers. However, it is also evident that lecturers may be prevented from learning new things and progressing on the expansive cycle due to the inhibitory nature of the larger activity system of the institution. Activity systems at a university are driven by communal motives that are difficult to articulate for individual lecturers. Disturbances and commonplace innovations such as the “top down” forced integration of educational technologies may offer possibilities for what Engeström (2000) calls “expansive developmental transformations” but, as can be seen from the accounts in the previous section, these transformations do not develop very far. The main factor that ultimately stimulates further transformations in the expansive cycle is the presence of a strong and extended community in which lecturers can share, think and grow. In fact, modelling and reflection, which are advanced stages of the expansive learning cycle, only become evident when collaboration within a healthy academic setting is possible.
Abstract

Increasingly professional educational psychologists in the United Kingdom are seeking creative opportunities to develop their practice with other professionals and with parents and families. However, organisational constraints regularly hamper progress leaving professionals frustrated and confused. This paper describes work-based projects which demonstrate how approaches using Activity Theory have been utilised to shape research within organisations, leading to changes in practice. Advantages of CHAT-based work, as opposed to other forms of systemic analysis, will be highlighted and challenges will be discussed. Examples from recent research endeavours will be used to demonstrate how this approach has been accepted and assimilated within and beyond EP workplaces.

Overview of paper

Educational psychologists working in the United Kingdom have, for over a quarter of a century, tried to work with organisations in systemic, preventative ways. Their motivation is driven by a desire to apply psychology in a broad sense to groups, classes, schools and other organisations and settings. However, this has proved to be a slow process as the numbers of individual children who present difficulties for teachers and other educationalists has increased year upon year and thus the requests for assessments and interventions with individuals has similarly grown. Where success has occurred in working with schools and other organisations in systemic and preventative ways, particular approaches have been used to help examine, understand and then intervene to change and improve work settings. More recently, applications of activity theory have been trialled, by educational psychologists, as an approach which offers a new perspective on work settings; bringing as it does, an integrated way of considering individuals in relation to others and to organisations as a whole (Leadbetter, 2005).

In the past few years child care services and education services have undergone vast changes in England in order to realign themselves and ensure they meet the needs of children and families efficiently and effectively. This has largely been driven by an agenda arising from the need to safeguard children more rigorously following a number of particularly high profile and harrowing child deaths. Thus services for children are now managed in different ways and in many cases are working in new configurations. Professionals in teams that support children and families have been
required to adjust their roles, their perceptions of their roles and the practices they engage in. It is large-scale changes such as these that have provided sites for researchers to work with professionals to help them understand and adjust to new working requirements.

Examples of such work include the large-scale ‘Learning in and for Interagency Working’ (LIW) project which investigated and worked with a number of multiagency teams as they adjusted to changes in their work settings. Over four years the research team followed an approach using CHAT principles to gather data on how professionals learn to work together. On a much smaller scale, psychologists working within a range of settings, who are attached to universities through undertaking post-graduate research, have been developing applications of activity theory at a number of levels. These can be summarised in the following three ways: activity theory as descriptive framework, an analytic device and organisational development tool. (Leadbetter, 2008).

An exploration of the perceptions of roles of psychologists working in specialist and generic teams gives an example of activity theory being used as a descriptive framework. Gaskell and Leadbetter, (2009) used activity theory frameworks to structure interviews with EPs who were working for part of the time in generic teams and part of their time in specialist teams. Through using CHAT terms and relational questioning, they were able to explore the effects on professional identity and boundary maintenance, yielding some interesting and unexpected findings.

Activity theory being used as an analytic device is perhaps the most common application as the nature of the approach facilitates exploration of relations between individuals working together and the culture, artefacts, structural and functional elements of the organisation. Atkinson (in Leadbetter, 2008) demonstrates how activity theory helped investigate the interplay between the individual characteristics of school pupils and the organisational characteristics of schools during the preparation for and transfer to secondary education. Contradictions between rules, expectations, and tools were uncovered and the schools were able to improve their practice as a result of the research.

Finally, the use of activity theory as the framework to direct interventions with work teams is well-documented (Engestrom, 2001). The large-scale LIW study mentioned earlier described how Developmental Work Research (DWR) methods were adapted to structure interventions in a range of teams of children’s services professionals, (Edwards et al, 2009; Daniels et al 2010).

Following this work other psychologists have used the DWR approach to implement change management programmes with multi-agency community teams, with specialist teachers in schools, with child and adolescent mental health teams, and with special educational panels. This work is in its early stages but psychologists are reporting that the approach, although complex for the facilitator to manage, is well-received by the participants and are enabling positive, evidence-based
changes to be planned and implemented.

Following on from the positive feedback practitioners give about the CHAT approach, within the university a research module will be offered which prepares researcher-practitioners to try out some of the ideas within their work settings. Hence a dilemma currently is deciding which aspects of CHAT, activity theory and DWR methods should be included in a short module and which should be left out. Reviewing the current work-based research being undertaken gives some indication of which concepts are helpful and the table below shows how, once activity theory has been introduced to a work group, the approach can be used to structure future planning.

Examples of types of multi-agency working and analytical tools

Examples of multi-agency working

- Boundary crossing
- Distributed expertise
- Rule-bending and risk taking
- Creating and developing new tools
- Cluster based team (low level integration)
- Changing traditional patterns of service delivery
- Joint referral and planning (medium level integration)
- Co-working specific schools or families
- New protocols, enquiry forms, ways of accessing service
- Work in Multi-agency team e.g. CAMHS, LAC (high-level integration)
- Using others’ expertise in training and consultancy

This table was used with a mixed group of educational psychologists from nine different EP Services to facilitate discussion of their current and future working practices and has led on to further changes in response to external forces. It suggests that there is a great deal of interest and enthusiasm for using CHAT as a basis for future work-based intervention and research.

References


Proposing a concept of horizontal mediation, our paper aims at horizontal reshape and expansion of the notion of mediation that is central to the cultural activity research. Horizontal expansion leads to shed light on the networking or sociable ties among people and objects in and between activity systems. In cultural and activity research, the notion of mediation represents the developing totality or wholeness of the activity system which is constituted by the complex multi-relations among the components such as agents, objects, tools and signs, means of production, goods and materials and so on. By horizontal expansion, we could well articulate the composite and internal structure of activity systems. We could distinguish the two kinds of aspect in the notion of mediation: vertical aspect and horizontal one. The vertical aspects refer to time and historical facets of the activity system, while the horizontal aspects are related to spatial and geographical planes in it.

Vygotskian notion of mediation could be characterized by its emphasis on vertical or the time and historical aspects of human mediated action. For example, in the case literacy, what is focused on is the results of literacy use: literacy makes possible to think in abstract and reflective manner. Using literacy as mediational means, human mind is enormously amplified and enlarged more than without it, or orality. Literacy could be compared to “an artificial limb” which remedially enlarges the lack of organ. Mediational process of literacy is narrated as a Bildungsroman that a layperson transforms into the literate. Thus, Vygotskian notion of mediation could be partly characterized by its verticality, historicity and uni-directionality, and mechanical enlargement. We could reshape the notion, by adding the horizontal aspect of mediation: the social interrelationships among people which are tied through mediational objects and the social association among people’s parties that is networked by productions and exchanges of mediational objects.

We would propose an expansive notion of mediation (or psychological tools or artifacts), a notion of horizontal mediational process which is spatially and geographically re-conceptualization of the notion of mediation. This renewed notion focuses on the interrelationship between people and objects that is constructed through the mediational means. The notion of mediation is important for cultural activity theory of psychology, theoretically and empirically. Empirically, the notion of mediation serves as an analytical tool for understanding human practice or activity, including teaching/learning, working, collaborative reform of activity itself, etc.

For example, use of literacy inevitably change and transform of the ways of people’s connecting. Writing and reading letters on the papers, we have to use peculiar ways of...
communication, such as bureaucratic style of paper works. Literacy forces us to entry into the peculiar inter-connections of production, consumption, and exchanges of information and its significance.

For illustrating the availability of the expansive notion of horizontal mediation, we will focus on agricultural activity that has been rarely discussed in cultural activity research. Majority part of agricultural production is out of market and industrialization, and in a sense, located on the periphery of capitalistic society. Agricultural activity greatly depends on the condition of nature and human. Capitalistic industry is not able to exercise absolute control over it. Considerable amount of agricultural products are exchanged in the out of market: they are exchanged and donated among families and local communities. There are many people who have acute interests aroused by sustainability of agriculture. The have various types of personal connections and relationships with farmers, not mediated through markets. Following horizontal mediation around these agricultural activities, we could make a picture that represents the social ties connected through and among people and parties, which could not be visible through the usual viewpoints depending on the market and industry. Through the work with the notion horizontal mediation and agricultural activity, we could open a new perspective on human practical activities.
Introduction

This paper argues four important aspects of cross-contextual practice (CCP) referred to as boundary crossing (Engeström, Engeström, & Karkkainen, 1995), developmental transfer (Tuomi-Gröhn, 2003), personal trajectories of participation across contexts of social practice (Dreier, 1999), consequential transitions (Beach, 2003), and legitimate peripheral participation (Lave & Wenger, 1991). It also constructs “perspective analysis” as a new psychological methodology based on these. We show how certain tasks can be tackled through these perspectives.

Cross-contextual practice is ubiquitous in modern times. A cross-contextual practice is a practice in which crossovers between diverse contexts arise. It is not a special event at all. For example, a tool that we use in an everyday context depends on the practices of enterprises that produce or sell it. Simultaneously, the practice of owning and using the tool, for example, breaking it, feeling discontented with it, buying the same one again, and so on, affects and transforms the practices of the enterprises that produced it. These enterprises are further linked to other diverse entities, such as the government, the economies of other countries and so on. In other words, like “the irreducible tension between active agents and cultural tools” (Wertsch, 1998), the relationship between contexts is composed of irreducible tensions among them, such that they cannot be separated but are always dynamically linked to each other.

A ramification of the increasing consolidation of communities and of globalization is the likelihood that the growth of this cross-contextual society will be accelerated, growing more complicated than ever. It is increasingly necessary to expand the unit of analysis from situated learning in a community into cross-contextual practice.

1) Making complex cross-contextual practice visible

Now this complex cross-contextual practice is not a special one but a necessary premise. Because of their simultaneous complexity and ordinariness, it is difficult for us to recognize how respective situated practices ally with each other. Metaphorically speaking, we can usually recognize a few noticeable bamboos, but others are hidden below ground, like bamboo rhizome (Ueno & Moro, 2009). We need to make the hidden complicated cross-contextual practice visible.

2) Relations as dynamic movements

Relations among contexts aren’t fixed but always move and change in various ways. Connections or
boundaries among contexts are always constructed, made to disappear, converted, and linked with other contexts by our actions.

Summarizing 1) and 2), our most important work is to make the complicated inter-weavings of the bamboo rhizome visible. The outcome of this work will be to generate new developments in cross-contextual practice that take previously unseen connections into consideration. On the other hand, some CCPs that aren’t made visible by analysis may sometimes make other unexpected movements. In other words, by developing insight in this area, we ourselves act as a catalyst for making new movements of CCP; we are in the vortex of an unpredictable experiment.

We show the significance of this work by using a case study of hospital A, where the unemployment rate was over 80% for a while, but was reduced to zero within a few years after introducing some organizational reforms. In short, we analyzed the situation with a concept of “the third space” (Gutiérrez, Baquedano-Lopez, & Tejeda, 1999) and made visible the many kinds of reorganizations of CCP among newcomers, senior staff members, administrators, departments, and so on; we reconsidered the concept. We showed various nurses belonging to other hospitals this explanation in a workshop, and asked them to reflect upon their own organization with reference to the consequences revealed by the analysis of hospital A, based on the concept of cross-contextual practice. They then localized this within their own practice, and developed unexpected new models or suggestions based on special states and interests in their own workplaces.

3) Construction of CCP discourse as special social practice

Actually, focusing on CCP and talking about it is itself a special social practice. CCP consists of the language action of “distantiation”, meaning to divide the seamless and vaguely experienced world into two or more collectives and to combine these collectives into some shape that connects them (Kagawa & Moro, 2009). The benchmarks by which we determine boundary lines among contexts are diverse; Østerlund (1996) mentions institutional boundaries as one, Engeström (2001) uses his concept of an expanded triangle containing the object, and Wenger (1990) espouses sharing a practice. They divide a few particular different collectives from a thus extended network among contexts or the seamless and vaguely experienced world through mediating the benchmark and its representation, such as a triangle or circle, and they combine them into a particular cross-contextual relation. This means that they socially construct some particular narrative of CCP.

As we focus on changes in the network among contexts like those mentioned above in 1) and 2), we may well flinch and tremble with fear in the face of the extensiveness, the complexity, and the subtleness of what we perceive. However, the practice of distantiation allows us to select or construct a few particular CCPs, while making other aspects of the network invisible for the time being. In this way, we can escape from the fear or difficulty to some degree.
From the above, one of the actions we need to take is to critically examine how each person practices distanitation; what is a benchmark-constructing boundary, what purpose do they distanitate through, and what does distanitation make invisible? Addressing these questions will help us to realize the diversity of distanitation even when it occurs within the same time and space, and to relativize our CCP. This makes it easier to construct other new distaniations.

We show these by an analysis of the learning process among student nurses at their transition from the classroom to a clinical stage in their basic nursing training (Kagawa and Moro, 2006). In short, the ways of distanitation were different between students, teachers, and nurses; they crossed and conflict with each other, and changed into another one.

4) Subject as particular and concrete existence and perspective analysis

Essentially, a subject crossing contexts doesn’t fall under the heading of a simple abstract category such as a doctor, a patient, a salesperson, or a student in a workplace or school, but is a particular and concrete person (Moro, 1999; Dreier, 1999). Perspective analysis is a methodology that we develop through an analysis of the following case and in accordance with theories of CCP, discourse analysis (Bernstein, 1996; Parker, 2004), and the idea of mediating tools developed by Vygotsky, to analyze a particular and concrete subject like this. We examine a case in which various people usually belonging to different communities support and rehabilitate a youth called Yuhki (an assumed name), who has a developmental disorder and has committed a sexual crime, developing this methodology.

Yuhki’s mother and supporters have usually supported him in various activities; over the course of his life he has participated in diverse contexts and received support from diverse people. We conducted a special CCP in which we interviewed his carers and compared and analyzed their situated practice in a paper examining special social practices.

As a result, we found that the perspectives (pedagogy discourse) that they mediated when they talked about Yuhki differed. For example, J, a staff member at a children's self-reliance support facility, described Yuhki’s subjectivity as “too much of a handful”, mediating the pedagogy discourse that J attached importance to behavior lists, clear rewards and punishment. On the other hand, N, a representative at a facility supporting people with disabilities, constructed Yuhki as a “dear” subject, mediating the discourse that he attached importance to participating in Yuhki’s preferred activity of gardening and had himself considered and determined his own actions.

Furthermore, we found plural pedagogy discourses and complex tensions or vacillations among them in a narrative by the same person. In that case, Yuhki was seen as having diverse existences.

These pedagogy discourses come from other communities producing discourses (Parker, 1994). They develop different relations between Yuhki and each supporter. Yuhki’s subjectivity has
undergone various changes in the struggle among diverse pedagogical discourses and his development has been complexly constructed through them.

Perspective analysis, itself a specific social practice, allows each person’s experience of the world to be considered. It also makes the diverse relations among contexts visible. As a developmental methodology, it attempts to facilitate each person’s changes or moves of CCP by recognizing the consequences of an analysis of their life worlds.
Globalized world with increasing flows of people creates new types of challenges for education and work. Today migration is more diversified than before and it has impact on adolescents, adults and whole families as well as societies and labor markets. The objective of this presentation is to focus on and clarify the nature of tensions and contradictions children of immigrants face in their lives, for example, between home, school and mainstream “Finnish” culture. Theoretical framework is cultural-historical activity theory and developmental work research, in which contradictions are seen as tensions between two opposing forces and dynamics that trigger learning and development. Research material consists of interviews with young people and with the employees of the Helsinki City, and of a semi-structural questionnaire for the employees. Furthermore, a Change Laboratory intervention with teachers of a second level vocational school was organized to identify tensions within teaching activity and to find solutions to existing challenges.

Introduction
This presentation is based on an on-going research project “Opening pathways to competence and employment for immigrants” (OPCE), and its third subproject “Intercultural learning among adolescents of ethnic minorities in Finland”. Big cities seem to attract new comers also in Finland; the amount of immigrants is approximately 3% of the Finland’s population; whereas in Helsinki, the capital area, approximately 10% of young people (age group 7-18 years) and 8.2% of the whole population speak a language other than Finnish or Swedish as their mother tongue (Helsinki City Urban Facts, 2008). National statistics (Opetushallitus 2009) show that the amount of immigrant students has increased 10% in comprehensive schools and 23% in vocational ones during 2007-2009. Students with immigration backgrounds drop out more easily than their native-born counterparts and have difficulties in transition phases: from comprehensive to secondary schools (Huhtala and Lilja 2008).

Learning and development are cultural phenomena, and are of crucial importance of anyone starting to live in a new country and in a new cultural environment. There is also a constant dynamic between culture and learning, as Säljö (2001) points out. It is not a homogeneous or one-dimensional process. Furthermore, it happens on both the individual and the collective level – in organizations, communities, schools and workplaces (cf. Engeström 1987). It involves development, transformation and change. It is also locally and historically formed, and thus takes different forms and modes in various schools, communities and countries. In intercultural encountering we see learning as an interactive and hybrid process of change, transformation and development on both the individual and the collective level (Teräs, 2007).

The objective of this study is to focus on and clarify the nature of tensions and contradictions children of immigrants face in their lives, for example, between home, school and mainstream “Finnish” culture.

Conceptual frame
We will approach tensions from the youth’s own perspectives and from perspectives of the Helsinki City employees who will encounter them in work. Theoretical framework is based on cultural-historical activity theory and developmental work research in which contradictions are seen as tensions between two opposing forces and dynamics that trigger learning and development (cf. Iljenkov, 1977; Leontjev, 1978; Engeström, 1987; 2005). So, they are not something we need to get rid of, instead they are explored and examined to reveal their potentials and they are used to create solutions to existing problems.

The concept of generation can be approached from three different perspectives: generation as group of people who were born at the same time period such as an age-cohort; generation as a group of
people who were born earlier or later such as parents and their children; and generation as a societal group of people such as those born after the 2WW (cf. Purhonen 2007). Rumbaut (2007) has brought up that age when children move to new countries has a significant impact for their adaptation processes in different social contexts. Based on large statistical samples in the United States, he and his colleagues formed generations, not only such as the first and the second generation of immigrants, but also 1.25 and 1.5 based on age of children when they migrated. For example, generation 1.5 are those who were between 6-12 years when they moved and generation 1.75 those who moved in early childhood ages 0-5.

Research material
First research material was gathered by interviewing young immigrant students and the employees of the City of Helsinki, and by conducting a semi-structural questionnaire for the employees from four different agencies of the City of Helsinki: Social, Youth, Health, and Education Departments. Second a Change Laboratory intervention was conducted with the teachers of a vocational secondary level school to explore more tensions and contradictions and to find solutions for developing education and training (cf. Virkkunen et al 1997).

Expected outcomes
The preliminary analysis already shows that the young and the employees identified both tensions between the home culture and the mainstream Finnish culture. Besides that the young identified also tensions between themselves and other immigrants. The young saw tensions between the culture of their parents and the employees explained tensions with differences between generations. Furthermore, the employees identified a tension between home culture and mainstream culture as seen in their work. The Change Laboratory sessions focused on tensions identified by the immigrant students and their teachers affecting teaching activity such as learning of vocation and a new language simultaneously.

References


Introduction
87% of Norwegian high school students, age 17, report that they have digital tools available when needed (ITU 2009) and many students are equipped with their own laptops. This implies that in addition to traditional resources in class, they have access to technical tools; a world wide web of information and social networks. These resources carry great potentials for collaborative building of competencies – not bounded by physical space. The potential context for learning has been expanded. During exams students are allowed to bring their computers with access to assorted applications and prepared, but in principle infinite, amounts of information. As communication and collaboration between learners are rejected during exams, the context for summative assessment is expanded, but only in a limited sense. Faced with such expansion and, thus, possible transformation of how we come to view assessment, teachers’ intersubjective understanding of what counts as knowledge is challenged. In this article I focus on the emergence of perceptions and conceptions among teachers, as they carry out and develop assessment practices in technology rich learning environments.

Even though students have access to computers, Erstad (Erstad 2009) claims that there are no large-scale initiatives to determine whether schools are teaching competencies relevant for today’s students. The general tendency is that teachers still observe and execute traditional assessment practices. Typically, this involves evaluating students’ ability to recall facts or respond to teacher initiated questions with right or wrong answers. In working life one’s ability to join in collaborative efforts solving complex problems and creating as well as sharing new ideas is valued and demanded (Gee, Hull et al. 1996). As a result, educators need to question the relevance and the consequences of the practices prioritized.

In this paper I will argue that a main challenge of designing assessment practices for a technology rich society is to re-think the fundamental questions of assessment: why assess, what to assess and how to assess? I discuss data from interviews with teachers describing how learners’ use of digital and networked technologies impact on their perceptions and conceptions of assessment. As Activity Theory offers a conceptual framework to address and analyze change, I find this useful when I discuss teachers’ approach to possibly new assessment practices. In particular, I draw on the Vygotskian notion of everyday language and scientific concepts (Vygotsky 1987). By
communicating about words, scientific concepts develops (Daniels 2009). As the body of experiences grows and is reflected upon, the use of words carrying stable meaning increases and, ideally, conceptions develop.

A brief review
The advent of social computing and networked technologies has highlighted the “awkward relationship” between 21st century media practices and learning and assessment practices prioritized in most schools (Hickey, Honeyford et al. 2010). Well recognized networks (Partnership for 21st Century Skills 2009) (ISTE 2007) have described proficiencies that are relevant for students to develop in today’s school. These call for enhancing creativity in collaborative and critical work involving complex problem solving.

Lund and Rasmussen (2009) have studied teachers and students working in wikis. The teachers’ role as a knowledge provider was disrupted along with her/his efforts to monitor and respond to the individual learner’s needs. Affordances as well as challenges appear when students’ repertoire expands with available digital artifacts. Both the methods and the rationale behind the traditional ways of keeping control of each individual’s competence and learning progression is put under pressure. Based on the backdrop I have sought to outline above my research question in this article is:

How does learners’ use of digital and networked technologies impact on high school teachers’ perceptions and conceptions of assessment?

My aim is to contribute to the conceptualization of assessing technology rich practices and the discussion about existing and future consequences of assessment practices (Bachman and Palmer 2010).

Theoretical framework
An activity theoretical approach to a study of change
In activity theory tensions are seen as springboards for change (Engeström 1987). When teachers relate to a changing context, activity theory (Engeström 2001) provides a conceptual framework to understand the phenomenon and focus on the object: valid assessment. Because teachers are committed to valid assessment, such commitment will to a great extent emerge as rules and conventions (e.g. intersubjectivity) in the activity system. There is reason to believe that formal or informal rules, division of labor and mediating artifacts are important factors that relate and interact in ways that might keep the activity system stable or trigger tensions carrying potentials for change.

Assessment
In my paper I will discuss development of assessment practices in general. When observing and interviewing teachers, I realized that they mainly talked about issues regarding summative
assessment, and I found it "difficult and even somewhat confusing" to keep my planned focus on just formative assessment practises.

Summative assessment is about tracing indicators of students learning, intending to control the pupil’s overall achievement in a specific area of learning at a certain time (Assessment and Learning Research Group 2003). My understanding of formative assessment is based on the definition given by The Assessment Reform Group (ARG), describing formative assessment as processes of seeking and interpreting indicators that are useful for students and teachers identifying where learners are in their learning, where they need to go and how best to get there (ARG 2002). This includes less structured activities, like talks about established prior knowledge on a topic or the like.

Method

Because my research questions focus on “how” and I want to contribute with a qualitative description of the phenomenon I study, I have chosen a case study of two schools (Yin 2009). Data presented in this paper refers to interviews with and observation of 15 teachers from 2 high schools. The informants are teachers of language learning, religion and/or media subjects. They were selected on the basis of their motivation and availability to participate.

Kvale and Brinkman describes interview as an “interview, where knowledge is constructed through the inter-action between the interviewer and the interviewee. It is an “Inter-view, an inter-change of views between two persons conversing about a theme of mutual interest” (Kvale 2009). I have tried to trigger the informants to make explicit their experiences and related reflections on assessment in a context where students have their own laptops. With semi-structured interviews my purpose has been to obtain “descriptions of the life world of the interviewee in order to interpret the meaning of the described phenomena” (Kvale 2009). Thoughts and language are seen as mediators of actions.

Data analysis, findings and discussion

The underlying research focus of this study is to discuss how learners’ use of digital and networked technologies impact on high school teachers’ perceptions and conceptions of assessment. I choose to answer this by focusing on two different tensions that emerged in teachers’ talks: students’ learning outcomes and the tasks.

What students actually learn or not in the established system seems to worry many teachers. One informant stated her worries very clear saying “It is sad that they have to know so little”. It seems like students miss incentives to learn the things teachers try to stimulate in the establish system. A tension emerges regarding students learning outcome.

In general my informants realize that they need to reformulate the tasks they give students to ensure that computers contribute to the learning processes, rather than disturb students. Most of my
informants would agree to this teacher saying “I am sure that access to sources makes the tasks more complicated and more abstract.” Another typical statement from my material is this: “I know that I must be more conscious about what tasks I give them.” Even though my teachers seems to be aware that they should develop new kinds of tasks, their frustrations telling about students who don’t need to know anything indicates that they struggle designing good tasks leading to the wanted consequences.

Educational events don’t seem to play by traditional rules anymore. The teachers describe feelings of being “in between” the known and the unknown. My data clearly supports what Hickey et.al. (2010) describe as an “awkward situation”. It seems like my informants have different strategies trying to reestablish the stability in the activity system. Instead of discussing the consequences of the ongoing assessment practices held up against the wanted consequences, many teachers seems to struggle trying to hold on to traditional rules, artifacts and divisions of labor based on experiences belonging to an educational context that has been quite radically changed. With rapidly changing practices in working life as well as in education and our life worlds we need to examine the consequences of assessment models and approaches. Reflecting upon consequences (Bachman and Palmer 2010) can be a good starting point for developing practices.