CONFERENCE PROCEEDINGS: FULL PAPERS

Patchwork. Learning Diversities

August 30st – September 1st 2012

Belgrade

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PATCHWORK. LEARNING DIVERSITIES
BOOK OF ABSTRACTS

Table of Content

Foreword

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The meeting on *Patchwork. Learning Diversities.* has been prepared and organized by two Special Interest Groups (SIGs) of the European Association of Research on Learning and Instruction (EARLI): SIG 10 on Social Interaction in Learning and Instruction, and SIG 21 on Teaching and Learning in Culturally Diverse Settings. SIG 10 is one of the oldest SIGs of EARLI, whereas SIG 21 was founded in 2007 at the EARLI meeting in Budapest, Hungary.

The aim of the meeting is to provide a forum for the exchange of research findings and new ideas on the theme of *Patchwork. Learning diversities.* Continuing the reflection started in Utrecht 2010, at the *Moving through cultures of learning* meeting, the focus of this meeting is to examine the dynamics by which practices of learning and institutions evolve, as learners, knowledge and educators move through different social spaces, meet and interact, as while drawing with them their languages, values and cultural references. This theme provides ample space for discussion both for the separate SIGs – social interaction in learning and instruction as well as cultural diversity - and for the SIGs jointly. In addition, special attention will be given to the educational realities and challenges in Serbia today.

The success of the collaboration of the SIGs is based on a shared interest in studying interaction processes involved in learning and teaching and the commitment of the two SIGs to promote qualitative as well as quantitative methods. This has been even more exemplified through papers presented in this book; where each in its own authentic way contributes the study of interaction in the never ending process of learning and teaching. Starting with a section on *Learning through dialogues*, then *Scaffolding*, *(Re)becoming a teacher*, *Studies in productive teaching-learning interactions, Culturally diverse settings in education; and* ending with a section *on Using the socio-cultural psychology as a tool for new understandings* this book provides an insight into different aspects of diversities in the learning and the teaching process.

Learning through dialogues

ASYMMETRICAL PEER INTERACTION AND FORMAL OPERATIONAL THINKING: ANALYSIS OF DIALOGUES IN UNSUCCESSFUL DYADS[1]

Ivana Stepanović Ilić[2]
Aleksandar Baucal

The main goal of the work is to analyze dialogues in unsuccessful dyads in which students with lower competences regressed on the formal operations test after the interaction with the more competent peer. The dialogue analysis relies on theoretical and research grounds of studies within Piagetian and socio-cultural approaches as sources for the operationalization of relevant characteristics of peer dialogues. Two groups of dialogue characteristics were derived: productive and hindering. Productive characteristics are cooperation, shared socio-cognitive conflict, aha moment, mediation, and justification of the right answer. Hindering characteristics are inconsistent behavior, domination, submissiveness, lack of cooperation and indifference. We choose four out of 47 dyads in which less competent students regressed most after the interaction. The dialogue characteristics were traced in conversations of chosen dyads in order to discover if some of them can be related to a regression of students with lower competences. We also analyzed the presence of dialogue characteristics in the two most successful dyads, in which less competent students advanced most on the post-test. The comparison of conversations in successful and unsuccessful dyads should provide additional understanding of dialogue features in unsuccessful dyads that led to the regression of less competent students. Results show that conversations in successful dyads are exclusively marked by the presence of productive characteristics. In the conversations within unsuccessful dyads hindering characteristics prevail and productive characteristics appear occasionally. The engagement of less competent students also differs in two types of dyads. The analysis implies that dominance of hindering and the rare presence of productive characteristics in communication between peers in the unsuccessful dyads can be connected to the regression of the students with lower competences.

Key words: asymmetrical peer interaction, formal operational thinking, dialogues, unsuccessful dyads

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Theoretical introduction

This work deals with dialogues in asymmetrical dyads, since we investigated dyads formed of students with different competences regarding the formal operational thinking. We analyzed dialogues in unsuccessful dyads; in which students with lower competences regressed on the post-test after the interaction with a more competent peer. Our aim was to identify dialogues characteristics and find out if they could be related to the regression of less competent students. We also analysed the dialogues in two most successful dyads, in which less competent students advanced most on the post-test. The comparison of conversations in successful and unsuccessful dyads should provide additional understanding of dialogue features in unsuccessful dyads that led to the regression of less competent students. In order to operationalize characteristics which will be traced in dialogues we combined theoretical and research grounds from Piagetian and socio-cultural paradigm. Although Howe and Mercer (2007) claim that peer interaction in classroom is mainly unproductive, studies of peer interaction were dominantly oriented towards development of new competences and did not analyse phenomenon of regression. The exception is Tudge (1989) who investigated regression of more competent students. Although he did not deal with regression of less competent students, his findings that less competent students do not progress if their more competent partners did not explain their answers or were insecure are very important for our research. Even though the studies of peer interaction were mainly focused on dialogue characteristics that encourage cognitive development, they also identified some aspects of peer conversation that do not have positive effect. Such characteristics were not related to regression because numerous studies were focused on average student's performance and did not further analyse particular cases. In our opinion, both kinds of dialogue characteristic are relevant for our investigation. On the one hand, it is possible that dialogue characteristics related to cognitive progress will not manifest in the communication within unsuccessful dyads, but will appear in successful dyads. On the other hand, we expect that dialogue characteristics that were not productive for cognitive development will manifest in peers conversation in unsuccessful dyads. In that respect, we perceive reviewed studies as a rich source of empirical evidence for selecting and defining key characteristics of peer dialogue influencing its effect on the cognitive development.

The method

The research had an experimental design: pre-test, intervention and post-test situation. The sample was convenient and consisted of 316 students (12-14 years old). Formal operational thinking was tested by BLOT test (Bond 1995, 1997). According to results of the pre-test, 47 dyads were formed. They consisted of more competent and less competent students of the same sex. Dyads got instruction to solve 5 tasks together and to agree on the correct solution. The tasks were chosen according to the principle that all tasks in the pre-test were correctly solved by a more competent student and incorrectly solved by a less competent student. As it was mentioned before, we analysed dialogues in 4 dyads in which less competent students regressed most after the interaction and dialogues in the 2 most successful dyads. The dialogues of the chosen dyads were transcribed and analysed by principles of conversational analysis. The theoretical grounds of two paradigms and their research results were source for the operationalization of dialogue characteristic which are traced in the analysis. We constructed two categories of relevant dialogue characteristics. The first one, productive characteristics, is related to features that were found by studies to be the cause of advancement of students with lower competences: cooperation, shared socio-cognitive conflict, aha moment, mediation and justification of the right answer. Cooperation presupposes an exchange of arguments between partners which leads to coordination of their perspectives(Piaget, 1950/1999). Shared socio-cognitive conflict implies the situation where partners are aware of their different opinions because they express those opinions openly and occasionally support them by arguments (Psaltis, 2005a).Aha moment represents behaviour of less competent student who gains a new perspective on the task and its solution as a result of justification and argumentation of his partner (Psaltis, 2005a). Mediation is closely connected to ZPD and represents complex and delicate behaviour of more competent student who gives assistance to his partner in the process of task solution. Justification of the right answer also describes behaviour of more competent student. Authors from both approaches emphasize the importance of opinion argumentation by more competent students for their partner advancement. The other category, hindering characteristics, consists of characteristics that were found in peer dialogues when students did not advance after interaction with a more competent partner: inconsistent

behaviour, domination, submissiveness, lack of cooperation and indifference. Inconsistent behaviour presupposes that the more competent partner is not confident in his answer (Tudge, 1989, 1992; Tudge et al., 1996), but it also includes situations when he suggests a wrong answer or accepts a wrong answer proposed by his less competent partner. Domination applies to situations in which one student imposes solution or disables partner's initiative. Submissive behaviour of one participant in interaction frequently accompanies dominant behaviour of the other. Lack of cooperation implies that there is no interaction and that students solved task individually. Indifference of one or both students also prevents real interaction because one or both students do not participate.

The results

Dialogues in the successful dyads are exclusively marked by the presence of productive characteristics. Their most salient characteristics are arguments exchange and joint activity over the process of task solution. Those features reflect an active involvement of both participants in dialogue. Dialogues of the unsuccessful dyads are different from uniform dialogues of the successful dyads. Although hindering characteristics prevail in the conversations within unsuccessful dyads, productive characteristics also appear. The most frequent pattern of communication in dialogues of the unsuccessful dyads is the dominant behaviour of more competent students and submissiveness of their partners. In some situations it causes submissive uncritical behaviour of their partners who passively agreed, did not question their opinion and even withdrew from the interaction. In other situations, when students with lower competences showed an initiative and proposed correct solutions, dominant attitude of their partners discouraged that initiative and made them agree with a wrong answer. It is also noticed that students with higher competences from the unsuccessful dyads very often manifested inconsistent behaviour, regarding their competences. The engagement of the less competent students also differs in two types of dyads. In the successful dyads the less competent students actively contributed to the process of task solving. This kind of behaviour was accepted and supported by their more competent peers. Conversely, the situation in unsuccessful dyads is not that clear. The less competent students in the two

dyads did not show much initiative. Actually, one of them was rather passive. In other two dyads the students with lower competences were pretty active but their engagement was often blocked by dominant attitude of their partners.

Discussion

The presence of productive and absence of hindering dialogue characteristics in conversation of successful dyads were expected ant this is in line with the results of research that related the progress of less competent students to cooperation and discussion based on arguments (Perret-Clermont, 1980; Tudge et al., 1996; Kumpulainen & Kartinen, 2003; Rojas-Drummond & Mercer, 2003;Psaltis, 2005a; Mercer & Littleton, 2007). The productive characteristics occur in dialogues of unsuccessful dyads very seldom as we predicted. Domination of more competent students is the most frequent characteristic of their dialogues. The analysis of conversations suggests that dominant attitude of more competent students prevents manifestation of characteristics we labelled as productive, such as cooperation, shared understanding or shared socio-cognitive conflict. This fact confirms the significance of peer's asymmetry for the course of dialogue and for interaction effects, which was highlighted by authors within the Piagetian approach (Perret-Clermont, 1980; Psaltis, 2005a, 2005b; Psaltis & Duveen, 2006; Swenson, 2000). The prevalence of that and others hindering characteristics in dialogues of unsuccessful dyads seems to be crucial for the regression of the students with lower competences. Furthermore, the low frequency of the productive characteristics in the unsuccessful dyads can also be connected to regression of the students with lower competences. Students with higher competences very often did not give an explanation of a proposed answer. Such behaviour of more competent students was related to regression of their less competent partners by other authors as well (Mugny & Doise, 1978; Tudge et al., 1996). Our findings can be discussed in the light of educational implications as well. They enable teachers to anticipate and to try to eliminate conditions that could prevent positive effects of asymmetrical peer interaction in a process of construction of higher thinking forms. The results of dialogue analysis suggest that those conditions can be related to cognitive and social aspects of students' behaviour. Cognitive

aspects are dominantly connected to the uncertainty and inconsistence of the more competent students in the manifestation of their reasoning capacities. The social aspects are mostly associated with a dominant attitude of the more competent students, a submissive behaviour of the less competent students and a lack of initiative in the less competent students.

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PARTICIPATION AND LANGUAGE LEARNING IN THE MULTILINGUAL PREPRIMARY CLASSROOM[3]

Delia Wirtz

The purpose of this qualitative case study is to record how children construct a participation framework in social interaction – specifically while story listening during a pre-primary classroom activity. School socializes children into listening to stories told by the teachers following the practices in line with the historical tradition of the institution (e.g., Rogoff 1999). However, the analysis of transcribed video data shows how children within such a listening-to-reading situation (don't) display orientation towards the acknowledged practices. Specifically, issues such as positioning, gestures, ratification of topics, relevance of a particular interaction mode etc. are tangible from the analysis of the participation framework (Goodwin 1981, 2000). A preliminary study (Wirtz 2010) focused on instances of the supported/not-supported construction of participation framework within this setting, showing how children of different cultural backgrounds rely on various modes for making sense of and interacting with their environment. Moving beyond language as the principal mode of meaning making opens up perspectives on the significance of other channels such as gazes, body posture, hand movements, physical space, manipulation of artifacts etc. in understanding and shaping social interaction. One Luxembourgish and two Lusophone children in a Luxembourgish preschool are at the core of this study. They have been videotaped during an activity of joint book reading (Ard & Beverly 2004). The analysis provides a sequence-by-sequence analysis of the joint construction of the participation framework by children "doing being" the listeners in the multicultural schooling context. Results then point to different types of listening. Moreover, they reveal how different modes are ratified or rejected by the teachers and/or the children constructing the participation framework of listening within the schooling setting. The discussion focuses on how various modes introduced by the children are (not) valued within school and how socio-culturally sensitive orientations towards the resources brought in as "doing listening" by the children can further be integrated for the setup of schooling in multicultural contexts.

Keywords: participation framework, negotiation, joint story reading

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The multicultural Luxembourgish classroom

Understanding and dealing with diversity is a reality in Luxembourgish classrooms in which the ratio of non-native students reaches up to 48, 3% (MENFP, 2012, p. 15). This necessity does not only come from academic (non-) achievement and classroom life but also from a growing disparity between the cultural background of the teachers and these students. As Blommaert (2005) puts it, "they have to mediate complex encounters among interlocutors with different language capacities and cultural imaginations, who have different social and political memories, and who don't necessarily share a common understanding of the social reality they are living in" (in Kramsch et al., 2008, p. 646). This becomes explicit in a specific preschool activity, taking place in such a Luxembourgish classroom, where teacher and students of Luxembourgish, Portuguese, Cap Verdean and Brazilian origins negotiate the construction of a participation framework during story reading.

Establishing a participation framework during joint story reading

According to Bourdieu, schools are seen as "educational institutions that reward students who display cultural knowledge and skills consistent with those of the dominant class". Consequently, students whose cultural background experiences vary from those of the dominating class, struggle to get the same educational resources and institutional support (in Vásquez, 2003, pp. 20-21). Culture, then, refers to a "framework of beliefs, expressive symbols, and values in terms of which individuals define their world, express their feelings, and make their judgments" (De Haan et al., 2005, p. 368). First, we define human communication and interaction in a general way and then we draw parallels to the specific classroom modes as observed during a story reading activity.

The participation framework

Social interaction requires from the participants the capacity of recognizing the form and the character of what is going on. This skill allows

the social actors to mutually understand the action and the logical following consequences (Goodwin, 2000, p. 1491). "Intersubjectivity", then, presupposes people sharing the same reality and understanding each other in these terms (Gubrium et al., 2000, pp. 489-490). Nevertheless, each agent interprets a given situation in line with his personal knowledge and resources (Kress, 2010, p.36). Intersubjectivity, then, becomes a social accomplishment in which comprehension is jointly constructed and people orient their attention towards each other. The "participation framework" involves language, the body (position, gestures, gaze etc.), artifacts and action, which all contribute to the process of making sense of interaction (Raudaskoski, 2010, p. 426). Gumperz's notion of "contextualization cues" describes features of language that are verbal as well as nonverbal and relate what is said to background knowledge that allows situated inferences about what one's interlocutor intends to convey (Schiffrin, 1999, p. 313 in Paulston et al., 2003 p. 72). As an example, Paulston et al. describe a student apparently refusing to read – the interpretation of Western teachers – but in reality asking for encouragement – the African people's point of view (Gumperz, 2003, p. 151).

Joint story reading

The classical pattern of communication in classrooms is subdivided into three steps: The opening is often done by the teacher (e.g. a question, an interpellation), followed by a reaction of the student (e.g. an answer, an adaptation of behavior) and ended with the teacher's positive or negative feedback (Becker-Mrotzek et al., 2001, pp. 21-22 and Goffman, 1981, pp. 53-54). This communication pattern is embedded in the more general classroom mode, in this case, of joint story reading. The action inside this mode is organized by specific explicit or implicit rules that enable the students to act within the borders determined by the institution and guarded by the teacher (Bendel, 2007, p. 201).

During story reading, the reader is generally dominating the floor although the listeners can be active too. In this sense, spontaneous contributions by the listeners contribute to a joint production of the story (Holmes, 2003, p. 127). We should not forget that this type of interaction is

governed by the same rules as mentioned before: Actors bring in their personal cultural background. In this context, Holmes (2003) mentions Maori and Pakeha people who have different approaches to listening: The first tend to show listenership by silence and observation of non-verbal signals whereas the latter pay attention to verbal expression (p. 115).

A sequence-by-sequence analysis

The main objective of this study is to understand collaborative learning practices in multicultural classrooms, as being explicit in joint book reading. Building up on a previous study about how language learners rely on various modes for making sense of their environment while interacting in a free-play activity in preschool (Wirtz, 2011), this investigation analyses the joint construction of such a participation framework in a more formal activity led by the teacher.

The data has been recorded in a preschool in Luxembourg City. As a whole, the class is composed of 1 native and 15 non-native Luxembourgish speakers. Four children participate in the activity during which the teacher (T) tells a story about bunnies being trapped by an evil wolf in a factory. These children are:

- Isa (Is), a 6 years old Luxembourgish girl

- Uriel (Ur), a 5 years old Portuguese boy

- Samara (Sa), a 6 years old Cap Verdean/Brazilian girl

- Gabriele (Ga), a 5 years old Cap Verdean girl

After the recording of this 20 minutes activity, the data has been transcribed in the program Transana (enabling the detailed analysis of video material) using the GAT-convention (see appendix), "providing the researcher with a valuable opportunity to actively engage with his or her research material" (Mertens, 2010, p. 424). Following the conversation analytical model, the turns have been analyzed in a sequence-by-sequence

manner to tightly observe the joint construction of the participation framework during which the children do being the listeners (Ten Have, 2007, pp. 9 and 35 / Mondada, 2006, p. 54).

In order to learn more about contrasts in the constructions as well as parental visions of complying with the joint book reading activity at pre-school, parents are going to be shown an extract of such an activity (which does not involve their own child) in a later phase of this study. The parents' comments are going to be analyzed with regard to values, demands and expectancies towards reading at school. Relying on a phenomenological framework (Gubrium & Holstein 2000) the analysis of these comments will provide insights into their visions of socialization with regard to reading and literacy in general.

The bunny and the "evil"

The following section discusses the results by working through several transcription extracts. The first data extract seems to prepare a classical question-answer situation in which the quickest student places his/her answer but the teacher decides to build the participation framework including the "slower" students:

007	Is	en hue::s; *a b::unny;*
008	T	En HUe::s; *A BU::nny;*
009		a: wat gesi mer hei=<<p> Isa *a:nd what do we see here=<<p> Isa*
010		mol e moment= ((puts finger *just a moment= ((puts finger*
011		to her mouth) sch:)> =wen *to her mouth) sch:)> =whom*
012		hu mer hei, *do we have here,*
013		wat ass dat, *what is it,*
014	Sa	.hh ((shows her finger)

Data extract 1

Isa is eager to contribute with a right answer to the teacher's question (line 007). The latter slows her down because she did not address her question to Isa (lines 008 to 012) and requests the answer from the other children granting them a bigger space to participate. Her reprimand is underlined by the gesture of putting her finger to the mouth and symbolizing silence (lines 010-011).

022	T	wat kéint
		what could possibly
023		dann do an der geschicht
		happen in that
024		geschéien,
		story,
025	Sa	((smiles, jiggles both of
026		her feet).H)

Data Extract 2

043	T	huet nach een eng idee↑ (-)
		does anyone have another idea↑ (-)
044		kucke mer ob s de recht
		let's see if you
045		hues hein↑ [isa;
		are right hein↑ [isa;
046	Sa	[((shows her finger
047	T	samara)) wat kéint do
		what could possibly
048		geschéien;
		happen there;
049	Sa	ähm:: ((wrings her hands) (6.0)
050	T	hues de vergiess;
		did you forget;
051	Sa	jo.
		yes.

Data Extract 3

Samara tries to participate first in showing positive emotions towards the story: She smiles and jiggles her feet in excitement (lines 025-026). Later she is keen enough to show her finger (line 046), the convention used to claim the right to speak in a classroom. Acknowledging the respected rule, the teacher directs a question to Samara (lines 047-048) who cannot answer (line 049, pause of 6 seconds) even though she was requesting a space to speak just before. The following forth extract repeats Samara's emotional engagement:

060	T	de schlaue klengen hues; *the smart little bunny;*
061 062	Sa	oh: ((puts her hands together) wéi sü:ss-= *how swee:t-=*
063	T	=jo, *=yes,*
064	Sa	deen ass be süss; *this one is be sweet;*

<div align="right">Data Extract 4</div>

Samara's interrupting declaration of how sweet the bunny is (line 062), comes with an underpinning gesture in which she joins both hands (line 061). Until that point in the data, she is the only student making accompanying remarks, which are unwanted as the teacher is still not ratifying her as a speaker:

081	Sa	[((shows her finger)
082	T	denkt hien;) *he thinks;)*
083		do ass awer eng schéi *there is a nice*
084		wuerzel↓ (-) .HHH *carot↓ (-) .HHH*
085		déi ass jo: ri::seg grou:ss- *it is hu::ge-*
086 087		oa::::↓ s:uper; oioioioioi:
088	Sa	an dann ((points with her *and then*
089 090		finger towards the book) hien iesst) *he eat*
091	Gr	((rubs her eye))
092 093	T	((makes eating sound)) fest bäisst den hues an *strongly he bites into*
094		dwuerzel- *the carot-*

<div align="right">Data Extract 5</div>

Samara shows her finger (line 81) and is requesting the floor to speak. The teacher goes on telling the story (lines 082 to 087) so Samara makes a remark and points to the book (lines 088-090) to reinforce her participation. Again, the teacher is ignoring her interruptions and continues the storytelling (lines 092-094). Samara's will to establish a participation

framework in which she can be more active, instead of simply listening, culminates in the following data extract:

099	Sa	[((points with her finger
100		to the book) an dann
		and then
101		[dee béisen do;
		[this evil there;
102	T	[((puts her finger in front
103		of her lips) sh:: (.) shh;
104	Is	sh:=
105	T	=wat [ass da:t dann;
		=now [what is thi:s;
106	Sa	[((shows [her finger)
107	Ur	[shows his finger)
108	T	T [((imitates story laughter)
109	Sa	[((moves her legs in excitement
110		and puts her hand on Uriel's
111		pointing arm) 2.0)
112		[di béisen-
		[thi evil-
113	Is	[((puts her finger
114		to the mouth) sh:)
115	T	((finishes laughter))
116		denkt de (.) BEIsen;
		the evil (.) thinks;
117	Ur	((puts his arm down))
118	Sa	béisen;
		evil;
119	T	wat;
		what;

120	Sa	he'= *he'=*
121	T	=wéi heescht dat; *=how do we call this;*
122	Sa	heen huet ((puts finger down)) *he has ((puts finger down))*
123	T	de béisen- *the evil-*
124	Sa	he'= *he'=*
125	Is	=FU[ss; *=FO[x;*
126	Ur	((fumbles with his foot)
127	Sa	[de béisen *[the evil*
128	T	wo' *wo'*
129	Sa	[fuuss; *[fox;*
130	Is	[WOllef; *[WOlf;*
131	T	WO:llef. *WOlf.*
132	Sa	wollef; *wolf;*
133 134	Is	[((turns to Sa putting her finger to the lips) sh:)

Data Extract 6

Samara repeats a pointing gesture and makes a remark about the story (lines 099 to 101). This time, the teacher repeats the rule of listening silently to the story by a hushing gesture and sound (lines 102 to 103). Isa, concerned with maintaining the teacher's established framework of listening silently, repeats the hushing sound (line 104 and 113). But now the teacher decides to open up the framework and asks a question (line 105). Immediately, Samara points out her finger to obtain the turn allocation but Uriel is imitating her (lines 106 and 107), making himself to her rival in getting the floor. Samara is now excited, shown by the gesture of moving her feet (line 109) and anxious to be excelled by Uriel, she puts her hand on his arm as if to lower it (line 110). After two seconds she formulates the answer to the teacher's question (line 112) and the teacher acknowledges it informally by taken up her suggested term in the progressing story (lines 115 to 116) but not giving

an explicit positive feedback. The following turns repeatedly show Samara trying to formulate an answer but the teacher ignoring it and extending the participation to a word search activity (lines 119 to 131).

Isa eventually guesses the missing vocabulary (line 130) and is encouraged by the teacher repeating it (line 131). Samara also echoes the word but Isa, having sensed that the teacher closed the search activity after the finding of the solution, signals her that the participation framework is closed again and has gone back to the prior rule: listening silently, not interrupting (lines 133 to 134). A last data extract shows Samara retrying to open up the participation framework:

170	T	seet de wollef zum hues=
		says the wolf to the bunny=
171	Sa	=hm ech hu meng zänn raus
		=hm I pulled out my
172		gemeet;)
		teeth;)
173	T	mir si lo net bei dengen
		we are not dealing with
174		ZÄnn samara mir si lo bei
		your TEeth samara we are dealing
175		der geschicht↓ hein,
		with the story↓ hein,

Data Extract 7

Samara mentions that she pulled out her teeth (line 171), maybe inspired by the characteristic bunny teeth, but she is reprimanded immediately by the teacher (lines 173 to 175) who keeps the participation framework closed: The students are supposed to listen quietly and wait for an explicit call for active participation.

What to learn from the joint construction of a participation framework

Focusing on Isa and Samara, two major positions can be identified: Isa wanted to participate in the story right from the beginning but was restrained by the teacher who set up the rule of listening silently to the story. So she turns into the silent keeper of that rule and reprimands Samara on various occasions. As soon as the teacher was opening up the participation

framework, allowing the children to actively search for vocabulary, she gets re-involved and tries to find the correct answer. Samara, on the contrary, has a different approach of listening.

She is constantly in movement: jiggling her feet, speaking up loudly, showing her finger to claim speakership, changing sitting position, looking around etc. Constantly, she tries to engage into an active participation but is reprimanded by the teacher as well as by Isa as soon as she "interrupts" the flow of reading. Nevertheless, she does not give up and shows her finger to be assigned the right to speak according to the classroom rule. This particular interaction mode (Goodwin 1981, 2000) is activated for example in story reading situations:

The teacher wants the children to listen silently and only allows speaking when she is assigning it explicitly by calling the name of the child. When the teacher changes this mode to search for a vocabulary, Samara gets excited and vigorously claims speakership, although sticking to the finger rule. Anxious to speak, she even puts her arm on Uriel's in order to prevent him to get ahead of her. The teacher does not value this gesture and ignores Samara finishing herself the sentence and suggesting the right answer, which is picked up immediately by Isa.

The analysis of data shows some instances of the construction of the participation framework and how children of different cultural backgrounds rely on various modes for making sense of and interacting with their environment. The teacher powerfully defines her mode of interaction, listening silently, to which Isa is sticking rigorously. Samara on the other side is trying to open up that participation framework to include the active interaction between the teacher, the book and the children. As the teacher does not value this mode, she ignores it or, as Samara is not giving up, reprimands the latter for disobeying. Samara, as opposed to Isa, is not displaying orientation towards the acknowledged practice; she tries to establish a different listening style, which includes an active participation. Considering the multicultural composition of Luxemburgish classrooms, such socio-culturally sensitive orientations towards the different schooling resources need to be taken into account to do justice to the multiple origins of the pupils.

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Appendix

The GAT-Convention for transcription:

Accentuation:

acCENT	first or main accentuation
accEnt	secondary or auxiliary accentuation
ac!CENT!	very strong accentuation

Noticeable jumps in intonation:

↑	increasing intonation
↓	decreasing intonation

Volume and speed:

<<f> >	= forte, loud
<<ff> >	= fortissimo, very loud
<<p> >	= piano, quiet
<<pp> >	= pianissimo, very quiet
<<all> >	= allegro, quick
<<len> >	= lento, slowly
<<cresc> >	= crescendo, getting louder
<<dim> >	= decrescendo, getting quieter
<<acc> >	= accelerando, getting quicker
<<rall> >	= rallentando, getting slower

Breathing in and out:

.h, .hh, .hhh	breathing in (depending on the length)
h, hh, hhh	breathing out (depending on the length)

Sequential structure:

[ ]	speaking in the same moment
=	turns are following each other quickly

Silences:

(.)	micro-silence
(-), (--), (---)	short, intermediate and long silence (ca.
0,25 or 0,75	until 1 second
(2.0)	approximated silence (more than 1 second)
(2.58)	measured silence

Intonation:

?	climbing much
,	climbing
-	same intonation
;	dropping
.	dropping much

Other conventions:

((coughing))	acts which are not occurring during speech
<<coughing> >	acts which are occurring while speaking
<<amazed> >	interpretational comments
( )	incomprehensible sequence
(always)	assumed wording
al(w)ays	assumed sound
(always/often)	possible alternatives
((…))	skip in transcript
->	reference to the turn analysed in the text

MULTILINGUALISM AND METALINGUISTIC DEVELOPMENT IN CONTEXT: LEARNING GERMAN AS A THIRD LANGUAGE IN A DUTCH-ENGLISH BILINGUAL EDUCATION SETTING AND A REGULAR SECONDARY EDUCATION SETTING IN THE NETHERLANDS

Dieuwerke Rutgers[4]

Bi/multilingualism is an increasingly common phenomenon, especially given the status of English as a *lingua franca*. Similarly, developing bilingualism is increasingly becoming part of the aims and ambitions of schools, within Europe in particular. Many teaching methodologies and textbooks, however, approach foreign languages from a monolingual perspective. Particularly within bilingual schools, where additional languages are often learned alongside the target language of the programme, opportunities may be missed given that research into bilingualism and third language (L3) learning has highlighted that bilinguals differ from monolingual learners in terms of their cognitive, linguistic, and social development. Language learning and bi/multilingualism are, however, highly contextualized phenomena. Consequently, research in the field of L3 learning benefits from a holistic approach in which the relationship between (educational) context and learner development is central. The study presented here, which explores how Dutch-English bilingual education may be affecting the learning of German as a third language by comparing pupils' metalinguistic development within a bilingual and a regular secondary education programme in the Netherlands, therefore, takes a sociocultural perspectives and a case-study approach to develop a contextualized understanding of L3 learning. Using task-based research (individual/group tasks) combined with retrospective interviews and lesson observations, and by applying a socio-cognitive discourse analysis, the study aims to explore the nature of both pupils' metalinguistic activities and the social-semiotic space provided by the two educational settings as framing these activities. A preliminary analysis reveals that the Bilingual-Stream pupils not only have a deeper, contextualized understanding of meaning, characterized by a strong form-meaning mapping, but also exhibit unique multilingual phenomena relating to a fluidity of language boundaries and a flexibility and playfulness in their approach to language.

Keywords: Bilingualism, multilingualism, metalinguistic development, situated cognition, Sociocultural Theory, Systemic Functional Linguistics, third language learning.

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Theoretical Introduction

In today's world, foreign/second (L2) learning has become a crucial part of people's identities as global citizens. In particular, the spread of English has led to the development of "multilingualism with English" (Hoffmann, 2000) and, consequently, to a growing interest in multilingualism as an area of research. This, in turn, gave rise to the field of third language acquisition (TLA), where research focuses specifically on the impact of multilingualism on further language (i.e. L3) learning. Our understanding of L3 learning is strongly influenced by bilingualism research. In earlier studies, monolingualism was considered the norm and bilinguals were viewed as the sum of two monolinguals, resulting in them being viewed as 2 having deficient proficiencies in two languages. However, it was increasingly found that bilinguals differ from monolinguals in terms of their cognitive, linguistic, and social development (Ianco-Worral, 1972; Cummins, 1976; Bialystok, 1991; Cook, 1995), revealing them to have a common underlying proficiency (CUP) rather than two separate proficiencies in both languages (Cummins, 1991; Grosjean, 1989). This resulted in the "theoretical recognition that multilingualism leads to the development of proficiencies not to be found in monolingual speakers" (Herdina & Jessner, 2002:17) underlying the current field of L3 learning.

Moreover, L3 learning differs from L2 learning in terms of its complexity, with the various routes that L3 learning can take resulting in a unique and complex interplay of individual learner differences, the psychological and linguistic effects of particular language interactions, and the specific learning environments in which the language development took and takes place. Consequently, multilinguals' language abilities are dynamic and emergent, reflecting 'the elusive quality of linguistic experience' (Van Lier, 2002:148) rather than objective and static knowledge of/about language, therefore requiring the use of an 'ecological perspective' (Bronfenbrenner, 1993; Kramsch, 2002) in which understanding the social contexts in which languages develop is central. Moreover, although research has shown that bi/multilingualism can lead to benefits for L3 learning due to a heightened metalinguistic awareness (Cenoz, 2003; Jessner, 2006), the extent to which this applies to bilingual education settings is less clear. In particular, as fewer studies have explored the more complex sociogenetic

processes of both multilingualism and metalinguistic development, little is known about the impact of bilingual teaching methodologies on the learning of other foreign languages within the curriculum. The study presented in this paper aims to fill this hiatus by exploring how Dutch-English bilingual education mediates the development of pupils' metalinguistic activities, and how this, in turn, mediates their learning of German at school. The study is guided by the following research questions: 1) What are the differences, if any, in the nature of the metalinguistic activities of pupils following the bilingual programme and pupils following the regular programme in relation to the learning of German as a foreign language?; 2) What roles do Dutch (L1), English (L2), and German (L3) play within the processes involved in the learning of German?

To answer these questions from an ecological perspective, the study turns to Vygotsky's Sociocultural Theory (SCT) and Halliday's Systemic Functional Linguistics (SFL), two theories that not only share their view of language as a dynamic process, but also emphasize the social origin of language and cognitive development (Wells, 1999; Byrnes, 2006). Their understanding of the dialectic relationship between individual and environment and their view of language as a semiotic tool regulating mental thinking (Vygotsky) and as social-semiotic action (Halliday), provide the theoretical framework through which the relationship between the cognitive and the social can be explored, allowing for an ecology of the multilingual mind and a view of L3 learning as a socio-cognitive and dynamic process whereby discursive activity about language leads to knowledge of language that allows for its control, consequently impacting on and mediating the learning of further languages. Consequently, whereas the term activities in the first research question reveals an understanding of pupils' metalinguistic mediation as reflecting both meaning and action, and as existing on both an intra- and interpersonal plane, the second question explores the role of the languages not only in terms of the cross linguistic interactions and awareness within the pupils' activities, but also in relation to the mediating role of the languages in pupils' private and social speech, and the metalinguistic register (Halliday) used by the teachers and pupils in the two educational settings.

Methodology

The study involves a case-study of one school in the Netherlands offering both Dutch-English bilingual and regular education. However, it can also be described as a multiple case-study, as it followed six pupils, three Bilingual-Stream (BS) and three Regular-Stream (non-BS), over eight months. A language-learning-background questionnaire and information about ability were used to select these pupils. The main data set consists of Think-Aloud Protocols (TAPs) from two individual L3 tasks (a picture-description task (iPDT) and a song-translation task (iSTT)) and transcripts of two group-tasks (a letter-writing and a song-translation task), both combined with Retrospective Interviews (RIs). Additionally, the selected pupils and their teachers were audio-recorded and observed while partaking in their normal English and German lessons, and semi-structured interviews with both the pupils and teachers were conducted to develop further insight into the participants' backgrounds, attitudes/motivations and understanding of language learning.

The data analysis procedure was designed to fulfill the study's multiple aims of understanding the nature of metalinguistic skills in L3 learning, understanding the role of social interaction in learning, and understanding the relationship between educational setting and individual cognition. To achieve this, the coding framework combines a socio-cognitive discourse analysis, based on Wells (1999) and Kumpulainen and Mutanen (1999), with an analysis of the pupils' Language-Related Activities (LRAs), which was derived from the data. The Socio-Cognitive Language Functions (SCLF) reflect Vygotsky and Halliday's view of language (as speech action) as having a socio-cognitive function, reflecting regulatory processes in situated thinking, while the LRAs consist of a 'focus' (i.e. what aspect of language does the learner pay attention to) and a 'process' (what does the learner do in relation to this language aspect). Finally, the analysis procedure includes a focus on the metalanguage used by the pupils and teachers during the task and in the lessons, paying particular attention to whether it reflects everyday/common-sense or scientific/educated conceptualizations (Vygotsky, Halliday) of language, thereby revealing the depth and nature of pupils' understandings of language, as well as their potential origins.

Preliminary Findings and Conclusions

The findings relate to the individual L3 tasks only and are limited to a discussion of one particular way in which pupils' metalinguistic understandings mediate the L3 learning process, namely pupils' lexical awareness as linked to their understanding of text and to specific psycholinguistic processes affecting the multilingual mind. The analysis revealed that the BS pupils have a particularly strong lexical awareness, consisting of both a deep understanding of semantics and the mapping of this meaning onto form (Halliday). This is perhaps best exemplified by an extract from the iPDT completed by Bastian, a male BS pupil. The extract (Figure 2), which is translated from Dutch[5], consists of two separate episodes, both relating to picture three of Figure 1 below, in relation to which Bastian is writing down 'when they get back home, father instantly wants to prepare the fish' in German .
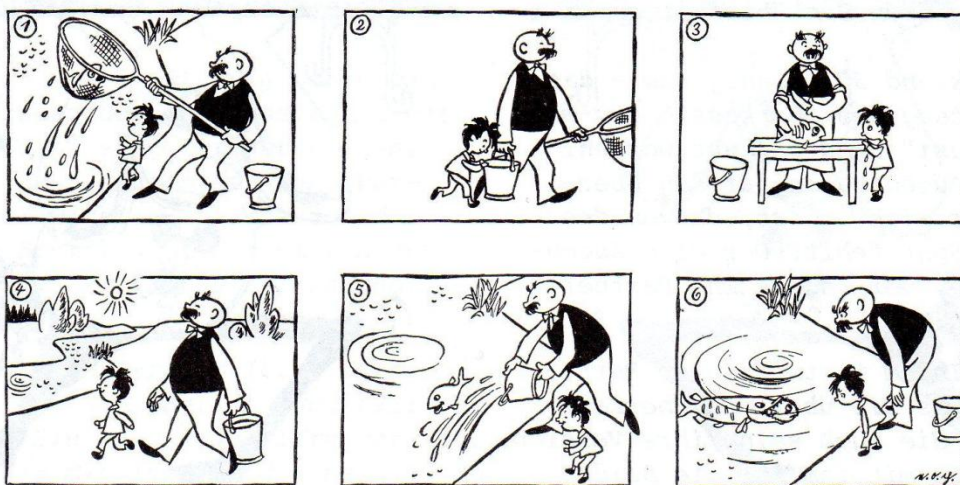
Figure 1: Cartoon used for the Individual Picture Description Task (iPDT)

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[5]Although the translation of the data is required for the dissemination of the findings, translating bi/trilingual data is not without difficulty. In particular, many of the specific metalinguistic activities can be lost in translation as they are often based on an understanding of form and meaning across languages. In this extract, all verbalizations that were in Dutch have been translated to English, while the German utterances have been kept in German to maintain this crucial language boundary. However, some other cross linguistic aspects in this extracts were lost in the translation but will be explained where relevant.

[#1] Hmm (1) [#2] ▼XXXX (.) [#3] eh [4#]▲direkt (.) [5#] ▼die (.) [6#] no der [7#] 'f course die Zander (.) [8#] Zander (1) [9#] make ready, [10#] read- (1) [11 #] make rea- || [12#] ▲prepare, [13#] ▼▼p-pre-|| [14#] marina-|| (1) [15#] hmm (3) [16#] ▼▼▼make read-|| (2) [17#] fish make ready-|| [18#] how do you do that? [19#] Yes (1) [20#] it open for now [21#] Der Zander (.) make ready.

...

[22#] Is there something I can add? (2) [23#] ▼▼XXXX [24#] about it [25#] ▲ let's see if I can remember those words (1) [26#] ▼Wann sie zuruck sind geht Vader direkt der (.) Zander (.) make↑ (9) [27#] Mmmyes. [28#] ▲Edible, [29#] essbar machen [30#] or something. (1) [31#] Ehm (.) [32#] dead mache-|| [33#] ▼well, that's a little (.) [34#] der Zander (2.5) [35#] prepare || [36#] ▲prepare make (.) [37#] mo-|| [38#] so to speak just machen. [39#] Der Zander (1) [40#] eh [41#] ess-|| [42#] essen↑ (.) [43#] edible [44#] essenbar machen, [45#] something like that, [41#] yes (.) [42#] 's I think bet- || [43#] is just 'machen'↑ [44#] they can, of course, machen all sorts of things. [45#] ▼Essenbar (.) machen↑ (2) [46#] ▼▼aber essenbar [47#] essen. [48#] ▲Essbar↑ [49#] edible (1) [50#] ▼▼es-essbar (1) [51#] essbar (1.5) [52#] I don't really know anything else at the moment. (3)

Figure 2: Extract from Bastian's iPDT TAP. Each utterance is indicated by [no. #]; ▼ = decreased volume; ▲= increased volume; bold text = emphasis; dotted underlined text = a decrease in the speed of utterance; ↑ = rising intonation at end of utterance.

Firstly, utterances [1#]-[18#] reveal how Bastian explores alternative ways of expressing the idea of 'getting the fish ready for consumption'. The SCLF 'Revising Suggestion/Finding Alternatives' captures this exploration of vocabulary in relation to both the meaning boundaries posed by the picture/sentence and pupils' L3 skills, with the SCLF 'Questioning' in utterance [18#] being an explicit verbalization of this process. Secondly, utterances [40#]-[51#] reflect Bastian's intuitive and holistic approach to creating the word '*essbar*' (LRA 'Focus Lexis/Process Word Derivation'), which he derives both from Dutch '*eetbaar*' (utterance [28#], [43#] and

[49#]) and the German infinitive '*essen*' (utterance [42#] and [47#]). Underlying these activities is a strong contextualized understanding of vocabulary, the ability to map this meaning to form, as well as eagerness to "write a good story" (Bastian, RI) and willingness to 'play' with language despite limited language skills. Firstly, the BS pupils 'find alternatives' (in German, Dutch and English) more than their non-BS counterparts, also within the iSTT (i.e. translating from German to Dutch), thus revealing that these activities did not only arise because of limited German vocabulary knowledge, but also because of greater emphasis on using the 'right' words to give 'depth' to their writings. Secondly, the BS pupils read both the current line (see e.g. utterance [26#]) and particularly the next and previous lines (SCLF 'Reading') more than the non-BS pupils. This suggests a 'contextualized' approach to vocabulary, where the BS pupils do not assume a one-to-one mapping of vocabulary and meaning (neither within and across languages) like in dictionaries or vocabulary lists, but view word meaning as embedded within the sentence, paragraph and/or story.

Due to this deeper understanding of semantics as 'contextualized meaning', the BS pupils are not only more focused on (depth of) meaning, but also reveal eagerness and playfulness in relation to L3 use, with the latter simultaneously reflecting and providing evidence for certain cognitive effects of both bi/multilingualism and bilingual education. In the extract, this is captured by Bastian's choice to 'create' the word 'essbar' rather than search for a one he may have learned before. Although his choice is driven by a knowledge gap, his word choice is interesting given that it is not very precise in either German or Dutch (from a monolingual perspective), yet the word 'edible' makes sense at the level of the meaning boundary, capturing the notion of 'preparing for consumption'. Moreover, the strangeness of the word '*eetbaar*' in Dutch, which is lost in the translated extract, is interesting: not only does the English 'edible' make 'more sense' than the Dutch '*eetbaar*', but the latter also feels like a translation of the former, hinting at the fact that both the Dutch and the German 'creations' may be affected by English as underlying Bastian's thinking. Although these are characteristics of foreign language writing, it also reflects a process whereby the exploration of lexis operates within meaning boundaries rather than word and/or language boundaries, a phenomenon known as 'linguistic fluidity' or 'translanguaging' (Blackledge & Creese, 2010a/b). Paradoxically, this

deeper understanding of meaning and greater linguistic fluidity can have a 'negative' effect, in that the BS pupils can be 'imprecise' in their word choices, both in the iPDT and iSTT, due to more 'confusion' about the labels (within and across languages) that are supposed to capture this meaning. Of particular interest in relation to this discussion are the few small words they 'forget' to translate, not realizing they are not in the target language of the task, as this reveals that they interpret and understand at a bi- or perhaps even trilingual level, not necessarily separating out the languages within this process. This confusion is, however, off-set against the BS pupils close reading and good receptive/interpretation skills, as well as their more playful and daring approach to language. The latter is also captured by, for example, the BS pupils' richer use of adverbial conjunctions, or specific combinations of conjunctions and adverbs. Thus, whereas the BS pupils write sentences such as '*nach einige Stunden haben sie endlich eine Zander 6 gefangen*', the non-BS pupils write sentences such as '*Max und Thomas laufen zurück zum Ufer*', revealing that the BS pupils are more prone to write down what they want to say in spite of their limited German skills (albeit with errors), while the non-BS pupils are more prone to writing in line with their limited German skills. Interestingly, these constructions often follow structures and features from English, thereby providing evidence for both translanguaging and the transfer of L2 writing skills to the L3 classroom.

Thus, the analysis revealed some important differences between the BS and the non-BS pupils relating to their lexical awareness, suggesting that bilingual education may indeed be impacting on pupils' skills, understandings and beliefs as foreign language learners. Although further in-depth analysis is still required, it is believed that the socio-cognitive discourse analysis put forward in this paper, which sheds light on the relationship between interactional patterns, thinking, the semiotics of language and L3 learning, enables us to explore the social-semiotic space of pupils' metalinguistic activities as both shaped by these activities and providing the frame affecting the transformation of the activities, making it a valuable tool for understanding the processes of situated metalinguistic skills and development in two different educational settings.

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DISCUSSION ON SOCIAL INTERACTION FROM TWO PERSPECTIVES: EXPLANATORY VS. ANALYTIC VIEW[6]

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Nevena Buđevac

Studies of social interaction within the fields of developmental, educational and social psychology are framed within different theoretical and methodological approaches. In our understanding, different approaches can be classified in two broader groups. Within one group (we will refer to it by using the term *explanatory view*) one can find studies which aim is not to study interaction *per se*, but to explain something that is considered as a result of interaction (for example, social or cognitive abilities, some specific knowledge etc.). Hence, this kind of studies is directed toward explanation of how characteristics of participants are (re)formed through interaction. Within the other perspective (labelled in this presentation as *analytic view*) social interaction is the main object of research, thus the scholars' efforts are directed toward detailed description of its diverse patterns and dynamics. This perspective is based on the assumption that personal characteristics (thinking, abilities etc.) are relational and contextual, thus that the study of interaction is the main source for understanding the ways in which different activities are linked within interaction, creating certain kinds of dynamics and trajectories. We want to argue for a meaningful integration of two perspectives, because it could advance our understanding of both– complexity (explanatory perspective focus) and diversity (analytic perspective focus) of social interaction.

Keywords: social interaction, cognitive development, Vygotsky, conversation analysis

The investigation of social interaction is a main object of inquiry in different theoretical and methodological approaches within the field of developmental, education and social psychology. In this paper we are going to reflect on two particular perspectives. In the first perspective social interaction is studied for instrumental reasons. It is not an object of study *per se*, but is studied in order to explain something outside of interaction (e.g. cognitive ability, self related characteristics etc.). Consequently, this

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perspective could be labeled as "explanatory perspective". In the second perspective, social interaction is the main object of research interest and it is analyzed in details aiming to describe its diverse patterns and dynamics. Thus, this perspective could be named as "analytic" one. In his annual review of studies of classroom talks, Mercer organized his discussion by using similar distinction between two perspectives – the first was labeled as "socio-cultural studies" and the second one as "linguistic ethnography studies" (Mercer, 2010).

In this paper, we are going to analyze in more details these so called "explanatory" and "analytic" perspectives. Our goal is to better understand these two perspectives as well as how they might be combined, enabling researchers not only to explore dynamic of social interaction and different forms and trajectories it can get, but also to understand how human beings become different, based on something "borrowed" from interaction with others.

Two perspectives in studying the social interaction

The two before mentioned approaches, the explanatory and the analytic one, imply different levels of treatment of the notion of "social interaction", both at theoretical and methodological level. For this reason, we intend to analyze main characteristics of these approaches, in order to be able to discuss some aspects that seem to us relevant in the present state of qualitative research in psychology and education.

Explanatory perspective: looking at the social interaction to get know its impact on learning and development

As it is already noted above the explanatory perspective in studying social interaction is an instrumental approach. It is based on the assumption that studies of social interaction can help to explain something else being outside of the interaction. This "something else" might be some characteristics of person (e.g. cognitive abilities, self-esteem etc), but also some organizational characteristics (e.g. roles and responsibilities, formal procedures etc.). Assuming that these personal or organizational characteristics are involved and shape the interaction, as well as that they

might be transformed throughout it, the study of the interaction can help to explain how these characteristics are (re)formed. In the developmental psychology, both Piagetian and Vygotskian approaches can be taken as example of the explanatory perspective on the social interaction. Although these theories are different with respect to the basic mechanisms of development (individual construction vs. co-construction), they are similar in their interest in the social interaction.

Many researches within Piagetian and Vygotskian traditions have highlighted the relationships between social interaction and development of competencies (see, for example, Forman et al., 1998; Wood, 1999; Baucal, 2003; Staub, 2004). In this type of studies, the main goal has been to find out what kinds of social interaction can lead toward development of competencies, as well as how competencies are developed through the participation in interaction with others. These studies may vary in different terms such as participants in interaction (peer interaction, parents – child, teacher - student interaction etc.), interaction site (school, home etc.), object of interaction (items indicating deeper cognitive structure such as concrete-operational thinking, academic items like understanding of the concept of floating in physics, some more open topics such as value based decision making situations etc.). What is common to these studies is that they are rather selective in their analysis of social interaction. Following the instrumental interest in social interaction, these studies are mainly focused on those aspects that can contribute to the explanation of competencies development.

In developmental and educational psychology, studies from this tradition tend to use the pre-post test experiment as a research design. Typically, based on the pre-test results two groups of participant are selected to be equal with respect to the key object of interest (e.g. analogical reasoning ability, conservation, level of understanding of an educationally relevant concept such as floating, velocity, etc.). Then, the experimental group is involved in certain kind of social interaction, while participants from the control group have no such opportunity. Finally, in the post-test both groups are assessed again in order to evaluate the impact of the social interaction on learning and development and ability being the object of inquiry. Some researchers have been more interested in the quantitative

effects of social interaction, while others have done additional qualitative analysis in order to find out how learning and development could emerge out of interaction with other(s).

In general, studies employing the explanatory perspective have provided wide range of knowledge about the kind of interaction supporting learning and development. Based on these studies, we understand that it is important for participants in social interaction to be actively involved in, that understanding of the goal and the object of the interaction is shared, that socio-cognitive conflicts needs to be managed in a constructive way, that argumentative thinking and discussion needs to be involved, etc. These studies have provided understanding how thinking develops as a means to reach certain goals and how the competence of learning to think is an inescapable part of the children's and adults' growth.

Social interactions contribute to the development of thinking not in a social vacuum, but as processes that are always situated in different settings of the everyday life. Since the first studies made by Piaget (1924, 1926) in order to assess children's cognitive development, social interaction has been an important element of analysis. He was trying to assess the level of children's reasoning inviting them to engage in verbal interaction with adults and to react to different points of view (Piaget & Szeminska, 1941). The importance of peer interaction has been also recognized for the process of socialization, both moral and cognitive, from early childhood to late adolescence. Even in the research lines of the post-Piagetian tradition this aspect has been empirically explored in different manners, especially with respect to the impact of social interaction on cognitive development (Doise, Mugny, & Perret-Clermont, 1975; Doise & Mugny, 1979; Perret-Clermont, 1980). Following this approach, many psycho-pedagogical studies (Slavin, 1986; Light & Littleton, 1994; Howe & Tolmie, 1999; Barron, 2003; Gillies, 2004; Mercer & Littleton, 2007) have investigated the conditions of success of peer interactions in classroom learning, highlighting various dimensions, such as: group composition; nature of the tasks and instructions; social and institutional context; types of goals of the activity, etc.

A relevant contribution to the study of social interaction as a place for co-construction of learning and development has been also strongly supported by authors employing the theory of Vygotsky (1934). Vygotsky

has highlighted the relevance of language as semiotic means for cognition and for the social processes whereby children learn and develop higher mental processes. This perspective has contributed to understand the role of the asymmetric relationships between adults and children, as a way to sustain the cognitive growth of the novices by introducing and participating in activities within their zone of proximal development. The post-Vygotskian tradition has strongly focused on the role of children's talk and on the educational resources that contribute to foster the collaborative work in educational settings and the children's thinking (Bruner, 1975, 1983; Forman, 1992; Mercer, 2000; Mercer & Littleton, 2007).

The study of social interaction from the explanatory perspective, especially those engaged into more detailed qualitative analysis of interaction, brought understanding that social interaction is not just an "external" variable affecting development and learning, but integrative part of process of learning and development. Social interactions are situated events composed of many individual and relational processes connected with language, communication, thinking, identities, (un)shared goals and agendas, etc., implying that both social and individual aspects of the human life might not be disentangled. In a way, this understanding emerging from the explanatory perspective provides a useful connection point with the analytical perspective.

Analytical perspective: looking at social interaction to understand its dynamic and different forms

The analytical perspective is based on the assumption that different personal characteristics (such as thinking, emotions, competencies, abilities, attitudes, etc.) are relational and situational/contextual. The tradition of studies assuming that studies of conversation and interaction between human beings are the main resources for the understanding of the way how different activities (cognitive, emotional, linguistic, social etc.) go together within social interaction and create certain kinds of dynamics and trajectories.

This analytical perspective had strong relevance to the investigation of social interactions as the main object of inquiry, and not instrumental as it is the case in the explanatory perspective (Rogoff, 1990; Schubauer-Leoni, Perret-Clermont & Grossen, 1992; Wertsch et al., 1995; Chaiklin, 2002;

Perret-Clermont, Carugati & Oates, 2004). Studies employing the analytical perspective pursue to take into account the dependence of all these aspects on the context in which they take place, such as the institutional, pedagogical or experimental settings. It is worth noting that the context is not considered as an external element because participants give their own interpretations of contextual elements, depending on their own stakes, cognitive levels, cultural schemes, values, motives. By doing it, participants construct the context during their talk (Light & Littleton, 2004). This meaning-making activity is simultaneously social, cognitive and situational and it is a fundamental aspect of the social interaction process.

In this respect, the analytical perspective takes rather different view on the social interaction, learning and development compared to the mainstream psychology traditions that treats personal characteristics as they exist within the person and are relatively independent from relationships and context. From the analytical perspective, it is meaningful to study how "personal" and "social" aspects of social interaction are intermingled and how they create specific dynamic systems that might unfold into different ways. However, it is less meaningful to ask whether and how personal characteristics are (re)shaped by social interaction as if they have an existence outside of the interaction and the context.

The social interaction as phenomenon and object of research is defined as dialogic and contextual processes in which people use language to combine their intellectual resources in the pursuit of a common task. As an interaction is always located within a cultural, social, institutional, and personal context, the bases of common knowledge upon which shared understanding depends are constantly developed by participants in the here-and-now of the interaction. The value of such approach in examining and assessing the social processes is the possibility to catch people in different situations of their everyday lives interacting and creating new meanings, trying to understand the other's perspective and to pursue joint activities and goals. This perspective allows for a more specific attention to how language and thinking are used and transformed within social interaction in order to carry out the developmental and learning processes.

Within this framework, the conversational and discursive analyses can be fruitfully assumed as possible ways to inquiry and to account for the

interaction among people in everyday social activities: language is not only an instrument of communication, but also one of the objects and aims of the socialization process. Consequently, the analytical perspective is characterized by the qualitative methodology(ies).

Contrary to the previously presented explanatory approach, which aims at identifying only common characteristics of social interaction supporting learning and development of individual competencies, the scholars' focus within the analytical approach is directed toward exploring and understanding diverse ways in which interactions among people take place as well as different trajectories interaction could unfold in.

Integrating the two perspectives: Implications within the qualitative approach in psychology and education

The analytical perspective puts stress on the collaboration with others as one of the very important competencies for the life in the modern society (Trier, 2001). Previous studies have demonstrated how the intersubjectivity in social interactions is progressively constructed by the participants via mutual negotiations, trying to understand each other's utterances and perspectives around the object of discourse and the relationship that is co-constructed (Schubauer-Leoni et al., 1992; Grossen et al., 1997). In this approach, a common interesting feature is the fact that learning is not just a matter of understanding and developing individual competencies, but it is an activity that is constructed in a context, with partners that are in social interactions. The advantage of this approach is that it studies interaction in full grain, focusing on its dynamics and situatedness, providing rich understanding of different ways and trajectories of real interactions, not only understanding of idealized and preferable forms that can produce positive impact on some other phenomena. However, because of the fine grain analysis encouraging case by case analysis, it makes challenging to make generalizations about certain patterns of interaction that might be found across situations as well as typical conditions, when such patterns of interaction are more likely, and different social and individual effects they can have.

On the other side, studies taking the explanatory view on the social interaction have highlighted the idea that through their participation in social interactions, adults and children come to develop and appropriate competence in different socio-culturally defined contexts. Contrary to the analytic perspective, it encourages generalization about productive patterns of social interactions as well as conditions that might increase likeliness that partners will manage to get into the productive interaction. However, it neglects the whole array of different forms that are not so productive, but that might be even more typical for interaction between children and adults in real life situations.

These two perspectives could be described metaphorically like "bird" and "frog" perspectives. While the explanatory perspective is more like a "bird perspective" providing insights into general patterns neglecting fine details and situatedness, the analytic perspective is more like a "frog perspective" enabling us to get understand complex dynamics of interaction between partners and its relations to and dependencies of the context.

Although we appreciate difficulties emerging from different epistemologies and assumptions these perspective are founded on, we believe that it is not worthwhile to get in an endless debate on which one is better. We are strongly convinced that through practical, on site meaningful integration of these two perspectives it might be possible to advance our understanding of both complexity and diversity of social interaction as well as its fruits that could be extracted from concrete cases of social interaction to other situations and interactions. In other words, we assume that through the detailed examination of verbal interactions during social exchanges it is possible to account for the socio-cultural structure of the interactive context. A specific attention on the pragmatic functions of language can offer a way to also analyze the use of speech forms as evoking or establishing particular types of interactions, including the speakers' stances or attitudes and their social relations, as well as specific attributes of individuals.

The possibility to take into account both perspectives allows us to consider different possible questions on social interaction: should we focus on investigation of diversity of social interaction characteristics in order to understand what is going on spontaneously in everyday life contexts? How do participants manage to face all the challenges that appear when

interacting with others, what they rely on, which resources and tools do they use? Or should we try to understand how to foster effective interactions because it can be a fruitful element to develop different competencies?

Considering the two perspectives and the above mentioned questions, we think that it is possible to consider these aspects only assuming an integrative perspective, not keeping it separately but trying to think how complementary the two approaches are.

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Scaffolding

THE ENACTMENT AND MEASUREMENT OF WHOLE-CLASS SCAFFOLDING

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Dolly van Eerde

To promote whole-class scaffolding of mathematical language, a teacher was asked to employ a repertoire of seven strategies (e.g., reformulating) in a multilingual primary classroom (22 pupils; grade 5-6). This paper investigates whether the enactment of these strategies did lead to long-term whole-class scaffolding as identifiable by its key characteristics: handover, responsiveness and diagnosis. Comparison of pupils' pre- and post-test scores on three linguistic key elements all yielded statistically significant differences with large effect sizes, thus confirmed handover. A statistically significant shift from high-support to low-support strategies revealed responsiveness to pupils' levels over nine lessons. A qualitative analysis showed interrelatedness of performed strategies and scaffolding characteristics (e.g., diagnosis). The results provide empirical evidence of the long-term realisation of whole-class scaffolding.

Keywords: handover to independence, responsiveness, scaffolding, whole-class interaction

Introduction

The metaphor of scaffolding originates from the context of problem solving to conceptualise adults' supportive role in dyadic adult-child interaction (Wood, Bruner, & Ross, 1976). Scaffolding nowadays refers to the temporary, responsive support helping a pupil perform a task he cannot yet complete by himself and that is intended to bring the pupil gradually to a state of competence in which he can complete a similar task independently (Jadallah et al., 2010). Ever since its introduction, there has been a growing body of research investigating how to describe, enact and analyse scaffolding (Lin et al., 2011; Van de Pol, Volman, & Beishuizen, 2010). Along with its increasing popularity, the concept has been extended to a variety of settings other than one-to-one teacher-student interaction. One such complex educational context concerns whole-class settings (e.g., Hogan & Pressley,

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1997). Research on whole-class scaffolding, however, faces conceptual and methodological challenges.

Conceptual challenges

Concept extension can lead to over generalisation and loose use of the concept if not thought through carefully. Over generalisation is involved when the concept is stretched so far that almost any support in classroom interaction (e.g., Meyer & Turner, 2002), or even classroom organization, artefacts or sequencing (e.g., Anghileri, 2006) are referred to as scaffolding. This trend has been widely criticized over the last decade (e.g., Puntambekar & Hübscher, 2005). Loose use is the case when the concept of scaffolding is used in classroom studies without explicit reference to its key characteristics (as is the case in Jadallah et al., 2010).

In response to these conceptual challenges faced in research on whole-class scaffolding, we have proposed a conceptualization of whole-class scaffolding that is both theoretically informed and empirically grounded (Smit, Van Eerde, & Bakker, in press). Based on the scaffolding literature, three key characteristics of whole-class scaffolding are distinguished: diagnosis, responsiveness (the adaptive core of the support provided) and handover to independence. These characteristics serve to identify teaching in whole-class settings as whole-class scaffolding. Furthermore, we formulated three features of whole-class scaffolding to capture its nature. (1) The empirical data led to a metaphorical distinction between online and offline enactment of key characteristics, during respectively outside whole-class interaction (layered nature). For example, teachers can also diagnose pupils' levels in between lessons when reading their work. (2) Furthermore, key characteristics appeared to occur not in one single episode of classroom interaction, but distributed over several episodes (distributed nature). For example, diagnosing during a lesson can lead to responsiveness in a subsequent lesson. (3) Last, pupils' increase in independence has been conceptualized as the cumulative effect of several instances of diagnoses and responsiveness over time (cumulative nature). Our conceptualization aimed to address the aforementioned conceptual challenges.

Methodological challenges

Several studies have yielded frameworks or categorisations of scaffolding focusing on teacher actions, but without studying effects on pupils (e.g., Nathan & Knuth, 2003). Scaffolding, however, is relational by nature. If studies do include pupils' progress, it is often unclear how teachers' strategies are related to pupils' development. In other words, teachers' adaptation of support to pupils' level of knowledge or ability needed for pupils' learning is rarely investigated in such studies. Yet responsiveness (also referred to as contingency) has been argued to be the most distinctive characteristic of scaffolding (e.g., Van de Pol, Volman, Elbers, & Beishuizen, in press). Moreover, explicit attention to teachers' diagnosing pupils' levels is also rare (an exception is Van de Pol, Volman, & Beishuizen, 2011). If we intend to do justice to the relational nature (between teacher and pupils) of whole-class scaffolding (e.g., Rasku-Puttonen, Eteläpelto, Arvaja, & Häkkinen, 2003) we face methodological challenges.

A first challenge is to include pupils' progress in an analysis of scaffolding (as did Mercer & Fisher, 1992), and thus show whether handover to independence has taken place. A second challenge is to determine if teacher strategies have been performed responsively. A third challenge is to analyse the characteristics of handover and responsiveness in relation to each other and in relation to diagnosis, which need not necessarily directly precede the performance of a teacher strategy. This implies that units of analysis larger than brief fragments of classroom interaction are typically needed, as "the process of teaching and learning in school has a natural long-term trajectory" (Mercer, 2008, p. 33). As a consequence of the third challenge we see the need to analyse classroom interaction as "linked chains of interaction" (Scott, Mortimer, & Aguiar, 2006, p. 610).

The current study

In a design-based research project we have developed a set of strategies for scaffolding the development of subject-specific language needed for mathematical learning, in an attempt to enact whole-class scaffolding (Smit & Van Eerde, 2011). In the current paper we deal with

methodological challenges in the context of scaffolding in whole-class settings. Our aim is to investigate whether the enactment of strategies intended to scaffold the development of subject-specific language in an upper primary mathematics classroom did lead to whole-class scaffolding as identifiable by its key characteristics, taking into account the aforementioned long-term nature of whole-class scaffolding. To fulfil this aim we address three research questions in response to the aforementioned methodological challenges.

To what extent did handover to independence take place?

To determine whether whole-class scaffolding has taken place, we need to find evidence of a process of handover to independence. Unlike most scaffolding studies that focus on the development of content knowledge (e.g., Speer & Wagner, 2009), our focus of independence is on subject-specific language development. Scaffolding language has particularly been advocated in multilingual classrooms, and has been argued to be a prerequisite for second language learners' successful participation at school. A reason put forward is that the development of subject-specific language is intertwined with conceptual development in a particular school subject (e.g., Gibbons, 2002). In our case, a process of handover concerned pupils' development of subject-specific language needed for reasoning about line graphs.

Finding evidence of handover to independence only, however, does not sufficiently underpin the assertion of scaffolding, for this could also point to the result of "good teaching". We therefore also investigate the characteristic of responsiveness in relation to performed teacher strategies:

What evidence of responsiveness can be identified in the teacher's enactment of strategies for promoting language development?

In the literature on scaffolding few studies explicitly examine responsiveness as part of classroom scaffolding. Those that do tend to have a local character in the sense that they concern teacher-student or teacher-small

group interaction rather than whole-class teaching. Moreover, small units of analyses are used (varying from a single utterance to three-turn sequences or brief interaction fragments), implying that only brief fragments of interaction are investigated to identify responsiveness or contingency (e.g., Van de Pol, Volman, Elbers, & Beishuizen, in press). Given the interactive nature of scaffolding it does seem defendable to study a teacher's adaptive behaviour at such micro-levels. As argued before, however, many topics of learning will take longer periods of time to pursue (Mercer, 2008). One such topic is (second) language development (Dixon et al., 2012). In line with our conceptualization of whole-class scaffolding we think that both pupils' language development and responsiveness of performed strategies thus need analysis at a larger time scale.

Once we have gained evidence of handover and responsiveness, the question arises how diagnosis occurred, and we propose to analyze this in relation to the other scaffolding characteristics to show how the strategies and characteristics are related. To this end we need fine-grained analysis. Hence our third research question:

How do the relationships between key characteristics of whole-class scaffolding and performed strategies play out over time?

As Mercer (2008) noted, few researchers have taken up the challenge to analyse episodes of classroom talk as the aforementioned linked chains of interaction. This lack of research can be explained by the theoretical and methodological challenges posed by the examination of the relationship between time, talk and learning in classrooms (as argued by Littleton, 1999). In the case of whole-class scaffolding such moment-to-moment analysis is even more complex, if offline enactment of key characteristics is also included in the analysis (e.g., diagnosing between lessons). However, to understand how pupils' language development unfolds over time in the context of whole-class scaffolding, we need such 'story threads' to uncover crucial moments in pupils' performance (during lessons) and in the teacher's performance (during and between lessons). As an inevitable consequence of the complexity such qualitative analysis brings along, we present only one

story thread in this paper, focusing on one aspect of the language to be developed.

[If you would like to read the full paper, please email Jantien Smit]

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SCAFFOLDING DIALOGUE FOR REASONING IN COLLABORATIVE LEARNING CONTEXTS

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In this paper we review a line of research which has analysed the nature and quality of teacher-students scaffolding strategies to support understanding and learning in primary school children. In particular, we have investigated the ways in which these strategies are enacted through the dialogic interactions among the participants, while children work on collaborative writing projects using ICT, aided by an adult. As part of these projects, triads of children carry out investigations on topics of their choice, produce and publish articles in magazines and deliver conferences.

Children create their writing projects in the context of an innovative Mexican educational programme called 'LT' (Rojas-Drummond, et al., 2010[10]). The programme has been designed to: a) foster the development of 'learning communities' within which children and adults co-construct knowledge, and b) enhance social, cognitive, psycholinguistic and technological abilities in the children, and particularly oral and written communication. Throughout the implementation of the programme, adults promote the use of diverse teaching-learning strategies. These include: a) the creation of situated learning environments rich in social interactions where the activities carried out are meaningful and mediated by cultural artifacts, including ICT; b) guided participation between experts and novices where adults scaffold children's learning activities; c) dialogic styles of interaction between adults and children and among peers; and d) collaborative learning where peers engage in diverse creative projects and joint problem solving.

The analytical work has included the development of a system to carry our fine-grained accounts of the ways in which these dialogic

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interactions support the unfolding of children's reasoning and learning over time. The system employs tools derived from Socio-cultural Discourse Analysis (Mercer, 2010) and The Ethnography of Communication (Saville-Troike, 2003). Our work is underpinned by a socio-cultural approach to understanding processes of development, teaching and learning. Within this theoretical framework, we attempt to create most needed bridges between conceptualizations of 'scaffolding' and 'dialogic approaches' to investigating learning and teaching in classroom settings.

Learning and development as apprenticeship

Inherent in a socio-cultural approach is the notion that, if we are to understand the nature of thinking, learning and development we need to take account of the intrinsically social and communicative nature of human life. Socio-cultural theory posits that learning and development are achieved partly through dialogue, and that education is enacted through the interactions between teachers and learners. These reflect the cultural and social practices of the communities in which educational institutions exist (Cole, 1996; Daniels, 2001; Lave & Wenger, 1991; Rogoff, 1990; Wertsch, 1985).

Rogoff (1995) proposes to analyze socio-cultural activity in general, and learning and development in particular, on three mutually constituting planes: a) *participatory appropriation* is the personal process by which individuals learn through their active engagement in social activities; b) *guided participation* refers to the interpersonal processes through which people become involved in culturally valued activity; and c) *apprenticeship* involves people participating in community activities that have as part of their purpose the development of mature participation by less experienced individuals' (Rogoff, 1995). Rogoff (1990) suggests that guided participation involves children and their caregivers in the collaborative processes of a) building bridges from children's present to new knowledge, and b) structuring children's participation in activities with dynamic shifts over their degree of responsibility. Underlying these processes is 'intersubjectivity', a sharing of focus and purpose among participants. The author further argues that guided participation implies that 'both guidance

and participation in culturally valued activities are essential to children's apprenticeship in thinking' (p. 16). In this context, 'scaffolding' takes place when such guidance falls within the 'zone of proximal development' (ZPD). That means that the aid of experts and peers is sensitively adjusted to the novice's current level of expertise ('real level'), while at the same time stretching it so that the novice can achieve more advanced levels that he or she could not yet display alone ('potential level') (Vygotsky, 1978; Wertsch, 1985; Wood, et al., 1976). Scaffolding gradually transfers responsibility to novices, allowing them to progress from 'legitimate peripheral participation' to assuming a more central role as competent participants in their communities of practice over time (Lave & Wenger, 1991). Following Cole (1985), Rogoff (1990) argues that interactions falling within the ZPD are 'the crucible of development and culture, in that they allow children to participate in activities that would be impossible for them alone' (p. 16).

Since the concept of 'scaffolding' was first introduced by the pioneer work of Wood et al. (1976), it has been widely used to explain individual and social processes in a wide variety of educational contexts. These include whole classroom and peer interactions (Elbers, 1996; Mercer, 1995; 2000; Renshaw & Brown, 1999; Rojas-Drummond, 2000; Rojas-Drummond & Mercer, 2003); distributed cognition (Cole & Engeström, 1993) and literacy (Palincsar & Brown, 1984; Rojas-Drummond, Hernández, Vélez, & Villagrán, 1998). (See van de Pol, Volman, & Beishuizen, 2010, and Lin et al., 2012, for comprehensive and current reviews of the literature in the field).

These and other contributions have advanced significantly in conceptualizing and empirically grounding the concept of 'scaffolding' in diverse contexts. However, few of these studies have analyzed in detail the role played by the dialogic interactions among the participants in providing scaffolds to promote learning and developmental processes.

The role of dialogue in fostering learning and development in educational contexts

Recent research in the field of educational practices has emphasized the key role played by the dialogic interactions among teachers and students in supporting children's development, reasoning and learning (e.g. Littleton & Howe, 2010; Mercer & Littleton, 2007). This research has explored two functional aspects of these interactions. The first is teachers' use of dialogue as a means for 'scaffolding' children's learning and development (Mercer, 1995, 2000; Mercer & Littleton, 2007; Rojas-Drummond, 2000; Rojas-Drummond & Mercer, 2003; Wells, 1999). The second is the potential value of peer group interaction and talk as another means of 'scaffolding' these processes, but in a more symmetrical environment (Fernández, Wegerif, Mercer & Rojas-Drummond, 2001; Howe, 2010; Rojas-Drummond, Gómez, & Vélez, 2008; Rojas-Drummond, Littleton, Hernández & Zúñiga, 2010).

In our line of research we attempt to integrate these two functional aspects of interactions by analyzing the quality of both teacher-student and peer communicative exchanges in collaborative learning contexts. Analyses centre on the ways scaffolding is enacted through what participants do and say as part of these interactions. Our work contributes to recent developments that endorse 'dialogic approaches' to investigating learning and teaching in educational contexts. According to Alexander (2008), dialogic interactions are conceived as those that harness the power of talk to stimulate and extend children's understanding, thinking and learning. These interactions are: '*collective*, teachers and children address learning tasks together, whether as a group or as a class; *reciprocal*, teachers and children listen to each other, share ideas and consider alternative viewpoints; *supportive*, children articulate their ideas freely, without fear of embarrassment over 'wrong' answers; and they help each other to reach common understandings; *cumulative*; teachers and children build on their own and each other's ideas and chain them into coherent lines of thinking and enquiry; and *purposeful*; teachers plan and steer classroom talk with specific educational goals in view' (Alexander, 2008; p. 38).

Through dialogic interactions participants can create 'dialogic spaces' (Wegerif, 2007) which maintain an open, constructive and critical posture towards the exploration, confrontation and negotiation of different

ideas. When opinions differ, participants may contrast their perspectives by using argumentation and making their reasoning explicit, seeking eventual consensus. There is also an orientation towards inquiry and the joint construction of knowledge (Hennessy, Mercer, & Warwick, 2011; Mercer & Littleton, 2007; Rojas-Drummond et al., 2010; Skidmore, 2006; Wells, 1999).

Some authors have created most needed bridges between conceptualizations of 'scaffolding' and those emerging from these more current 'dialogic approaches'. One of the most significant contributions towards this aim is Mercer's concept of 'intermental development zone' (IDZ). Mercer (2000) argues that for a teacher to teach and a learner to learn, 'they must use talk and joint activity to create a shared communicative space, an 'intermental development zone' (IDZ) on the contextual foundations of their common knowledge and aims' (p. 141). This dynamic zone is constantly reconstituted as dialogue progresses. Mercer and Littleton (2007) further highlight the need to move from conceptions of 'a teacher's conscious intentions outside of a dialogue, to concepts based on a characterization of dynamic processes maintained by the reciprocal and responsive way in which participants use language within dialogues' (p. 29).

However, we still need further theoretical and empirical work to increase our understanding of how scaffolding in enacted through the dialogic interactions among participants in diverse educational contexts, and how these processes enhance children's development and learning. In addition, we lack sensitive methodological tools to analyze in detail these interactive processes. In our work we have attempted to contribute to fill in some of these gaps. In particular, we have developed a system of analysis that enables fine-grained accounts of the ways in which dialogic interactions among teachers and students scaffold the unfolding of children's understanding and learning over time. We next present the methodological grounding of this analytical system.

Methodological framework

The system developed to analyze dialogic interactions among teachers and students employs tools derived from Socio-cultural Discourse Analysis (SDA, Mercer, 2010). According to Mercer, SDA seeks to understand the function of communicative exchanges, framed in their socio-cultural context. It further purports to explain how participants in conversations construct shared understandings and common knowledge, throughout different time scales. Within this framework, the focus of our analytical work is the process we term 'dialogic teaching-and-learning' (DTL). This involves the communicative interactions among teachers and students that enable them to construct shared understandings and common knowledge in classroom settings. To capture the dialogic nature of this interactive process, we have deepened the original definitions of Alexander's five core concepts that sit at the heart of what is meant by 'dialogic' (see above). We view these five concepts as 'dimensions of analysis' that overlap and complement each other, like 'kaleidoscopic lenses'. Following Fernández-Cárdenas (2009), these dimensions can be further construed as convergent 'frames of reference' (see also Goffman, 1974). We propose that the convergence of these five dimensions represents the essence of DTL.

Besides conceptualizing DTL, we have followed methods derived from the Ethnography of Communication in order to establish units of analysis systematically, starting from continuous strings of conversational turns (Hymes, 1972; Saville-Troike, 2003). In particular, we have employed the system of hierarchical and nested units of analysis these authors propose to investigate conversations among participants, consisting of 'communicative acts' (CA), embedded in 'communicative events' (CE), which are in turn part of broader 'communicative situations' (CS). Briefly, CA are identified by their interactional function. They get their status from the social context as well as from the grammatical form and intonation, and can be constituted by more than one utterance. CE are composed of a series of turns in the conversation where participants share a common purpose and general topic. Lastly, a CS is the general context within which communication occurs (see Rojas-Drummond, Mazón, Fernández, & Wegerif, 2006, for an illustration of the use of these categories).

Our system of analysis defines a series of CA that can be displayed by teachers and students, in terms of what they do and say during dialogic interactions. These CA are distributed across, and constitute, each of the five dimensions. The establishment and definition of these CA were initially based mainly on Alexander (2008); Mercer (2000); Mercer and Littleton (2007); Hennessy, et al. (2011); Wegerif (2007) and Wells (1999), as well as our own line of research for the last decade (Rojas-Drummond; 2000; Rojas-Drummond, et al., 2010; Rojas-Drummond, et al., 2006; Rojas-Drummond, Pérez, V., Vélez, M., Gómez, L., & Mendoza, 2003). The categories have been consecutively refined as data analyses progresses, in a 'top-down' and 'bottom-up', cyclical and iterative fashion. The system, as well as an illustration of its use for analysing DTL in collaborative contexts, are reported in Rojas-Drummond et al., (in preparation).

Conclusions

Preliminary results using the methodological system show it's ample potentiality to provide fine-grained, as well as longitudinal accounts of the ways in which the dialogical interactions among teachers and students work as scaffolds which gradually lead to better understanding and learning by the children. The system can also guide the development of teacher professionalization programmes, so that teachers can incorporate dialogic styles of engagement with their students in their daily practices. Thus, as a way of conclusion, we would argue that a 'dialogic approach' to investigating classroom interaction contributes importantly to our understanding and harnessing of the processes by which teachers and students construct knowledge jointly.

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DEVELOPING A PEDAGOGICAL GENRE FOR REASONING ABOUT LINE GRAPHS

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In this paper we employ genre pedagogy to investigate what academic language pupils need for reasoning about line graphs at upper primary school level, and how pupils' development of this language can be promoted. To this end, we introduce the notion of *pedagogical genre*: forms of subject-specific language crucial for pupils' successful participation in a particular school subject. To unravel the nature of a pedagogical genre for line graphs, we first identified three general genre characteristics by reviewing literature focusing on learning in this mathematical domain. These characteristics formed the starting point of three design-based teaching experiments carried out in multilingual classrooms, involving respectively six, eight and nine lessons (age 10-12). The experiments centralized the development of the pedagogical genre of *interpretative description of a line graph* to support pupils' reasoning. The design heuristic of the teaching and learning cycle, rooted in scaffolding research and principles of systemic functional linguistics, was employed to accomplish this. This cycle consists of four phases in which support for speaking and writing is gradually withdrawn, fostering pupils' independency in the genre focused on. Throughout the teaching experiments structure and linguistic genre features were formulated (e.g., concerning the use of temporal prepositions). We also gained progressive insight into how to improve the phasing of the teaching and learning cycle and the design of activities to promote pupils' genre proficiency (e.g., the importance of spoken discourse for pupils' development of the genre). We argue that genres are never "finished" and should thus not be used as rigid formats for teaching.

Keywords: academic language, genre pedagogy, pedagogical genre, line graphs, design research, teaching and learning cycle

This paper aims to investigate what language primary school pupils need to reason about line graphs, and how this language can be developed. The importance of language in mathematics education has been stressed by many scholars. Drawing on sociocultural perspectives, some view language as the main mediating tool for mathematical learning and advocate social interaction in the mathematics classroom (e.g., Mercer & Sams 2006; Van Eerde, Hajer, & Prenger 2008). Currently, there is an increasing number of

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studies drawing on a semiotic perspective and viewing mathematical thinking and learning as a meaning-making process (e.g., Sáenz-Ludlow & Presmeg 2006; Shreyar, Zolkower, & Pérez 2010). In both approaches scholars argue that the development of academic language is necessary to provide access to more advanced mathematical reasoning (e.g., Gorgorió & Planas 2001; Schleppegrell 2007). Attention to such academic language is necessary for all pupils, but particularly important in culturally and linguistically diverse classrooms (Hyland 2007; Morgan 2007).

Although a substantial body of research gives descriptions of the nature of academic language involved in mathematical learning (e.g., Morgan 2006), intervention studies in this domain are still rare. Scholars who conducted intervention studies focusing on academic language development carried out comparative or evaluative studies in the context of other school subjects, such as science (Tardy 2006). This paper, however, draws on a design-based study (Cobb, Confrey, diSessa, Lehrer, & Schauble 2003) in which the development of academic language for mathematical learning is explicitly promoted.

The pedagogical approach employed, referred to as genre pedagogy (e.g., Gibbons 2002), aims to support the development of spoken and written literacies needed for participating in school and society. Genre pedagogy has been successfully implemented in particular areas of the curriculum (Johns 2011), but so far hardly in mathematics education (Tardy 2006). In genre pedagogy the term *genre* is not confined to forms of literary writing (e.g., poem, novel), but broadened to include forms of academic language with a specific purpose, organization and specific language features (e.g., recount, argument, narrative). The notion of genre has the connotation of also being recognizable in outside school culture. However, in this paper we will argue that the notion of *pedagogical genre* is useful to refer to genres that mainly serve a purpose within school subjects.

In the research reported here we wanted to employ genre pedagogy to promote the development of the pedagogical genre required for mathematical learning in the domain of line graphs at upper primary level. This required two related steps. First, we needed to unravel the nature of this pedagogical genre. Taking into account the variety of forms and patterns language takes in different mathematical domains, scholars (e.g., Gibbons 2009;

Schleppegrell 2010) have argued that the genres to be promoted need to be particular to the type of knowledge that is developed in these domains. Moschkovich (2010), however, noted that interventionist research in this area is very scarce. We therefore reviewed the relevant literature to derive significant characteristics of the topic-specific genre needed for reasoning about line graphs. Secondly, three cycles of design research were carried out to design a theory-informed genre. In this approach, the pedagogical genre itself and the learning activities to promote this genre in pupils were co-developed.

We focus on line graphs for the following reasons. First, graphs are not only fundamental in mathematics but are also indispensable in the fields of physical and social sciences (Nathan & Kim 2007). Secondly, a review study (Leinhardt et al. 1990) revealed many difficulties and sources of these difficulties that pupils experience in the domain of graphs. For instance, pupils have difficulty expressing and interpreting change in line graphs. Thirdly, line graphs form a linguistically interesting domain. On the one hand, line graphs are topological in that lines represent the continuous change of physical phenomena (Roth & Bowen, 2003). Language, on the other hand, is typological since it divides the world into "objects and classes of objects" (p. 430). Thus, in a pedagogical genre for reasoning about line graphs these two features meet, which makes this genre different from non-mathematical genres. Moreover, Moschkovich (1996) argued that due to the complexity of the domain, the language needed involves not so much procedures and the use of technical terms, but rather precise descriptions with an underlying conceptual understanding. This makes the genre of reasoning about line graphs different from a genre in which arithmetic or algebra is central.

Given our aim to identify and develop the pedagogical genre that primary school pupils need to reason about line graphs, we address literature on genre pedagogy and on line graphs. Subsequently, we describe the design research project in which the pedagogical genre was developed. Here, we use 'develop' in the dual sense of developing the genre itself as well as developing the genre in pupils. We expect that with the elaboration of a pedagogical genre for this concrete case (domain of line graphs) we also provide insight into how such genres can be developed.

[If you would like to read the full paper, please email Jantien Smit]

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SCAFFOLDING BY DESIGN: CO-CONSTRUCTION THROUGH INTERACTION WITH CULTURALLY STRUCTURED ENVIRONMENT[12]

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A core concept in socio-cultural psychology is the concept of scaffolding indicating that new activity is co-constructed through shared activity. It refers typically on cases when a visible other provides a scaffolding. The main aim of this paper is to discuss somewhat different cases, i.e. cases in which there are no visible others, but scaffolding is performed by a culturally structured environment – e.g. a classroom designed in such way to prevent dialogue and group work between students, channelling students to be focused only toward one voice (the teacher). Such physical structures can shape activity in specific ways leading participants toward appropriation of a certain set of social and cultural meanings (e.g. "teacher should expose, and student should listen and learn"). Even without interaction and shared activity with teachers, students' learning is scaffolded by the design of appropriate classroom activities and sets of meanings. This example illustrates a case that departs from typical scaffolding examples in two important respects: (a) there is no visible other providing the scaffolding, and (b) guiding and support is provided by structure culturally designed by invisible other. In the paper, I am going to explore different cases like the previous one (artefacts, ICT, and technology) with the aim to discuss whether the concept of scaffolding could also be used in such cases and what would be the implications of positive and negative answers on this question.

Keywords: Vygotsky, socio-cultural psychology, scaffolding, zone of proximal development, co-construction, ICT

Socio cultural psychology assumes that human mind and activity are mediated and formed by others and cultural tools/resources, implicating that their very 'nature' is socio-cultural. It means that human mind and activity cannot be understood outside of the relationship with relevant socio-cultural context(s). In this view, the development of new patterns of activity are supported, guided, channelled and shaped through shared (joint) activity with a more competent partner (parent, teacher etc.), that is co-constructed. The partner in the process of co-construction is not only more competent, she or

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he is at the same time 'representative' of a certain social and cultural community. As a representative of a certain community, the more competent partner in the process of co-construction 'brings' into the shared activity the pattern of activity appropriated by their own community together with symbolic tools used by the community to make the activity meaningful, to stabilize and regulate it, to communicate and diffuse, as well as to justify and legitimate. At the beginning, a child is able to participate actively in performing certain socio-cultural activities only if he or she is supported by a more competent other. Throughout the shared activity the child is becoming gradually competent to perform individually the same activity without the support by appropriation of the pattern of activity and accompanied symbolic tools (Vygotsky, 1934-1986).

The metaphor of scaffolding: falling in love

In the mid 70s, in the early stage of introducing the socio-cultural approach to North American psychology, the metaphor of scaffolding was applied by Bruner, Wood and Ross to describe the role of a more competent partner in the socio-cultural approach to human development (Bruner, 1975, 1977; Wood, Bruner & Ross, 1976). They indicated the following roles of a more competent partner in the process of tutoring: (a) recruitment; (b) reducing the degree of freedom; (c) direction maintenance; (d) marking critical features; (e) frustration control; and (f) demonstration/modelling.

It seems that the metaphor of scaffolding was a good choice because since then it has been appropriated and used widely by different authors, even by those who did not share its theoretical background. For example, one typical use of scaffolding is in early language development to explain how babies acquire meaning throughout parent–child interaction. Babies are scaffolded by regularly structured shared activity with parents in which the range of meanings is quite limited, supporting babies to appropriate conventions of turn taking and meaning with words that are required from a language user (e.g., Bruner, 1975). Another field of study where scaffolding is typically used is in an educational context. For example, Scardamalia and Bereiter (1985) studied how teachers could provide support for development of more advanced writing strategies by a specific instructional method

("procedural facilitation"). These two typical examples demonstrate that the concept of scaffolding is related with interpersonal, face-to-face interaction where one person provides specific support to another person to appropriate a certain kind of activity.

Based on different applications of the metaphor in studying parent-child and teacher-student interactions, Stone (1998) proposed an evolved meaning of the metaphor that is similar to ideas presented by Wood, Bruner & Ross (1976): (a) a scaffolding interchange involved the recruitment by an adult of a child's involvement in a meaningful and culturally desirable activity beyond the child's current understanding or control; (b) titration of the assistance provided by the adult during the interaction; (c) the adult provides a range of types of support; and (d) support the adult provided was assumed to be temporary and was gradually withdrawn, in order to foster a transfer of responsibility from the adult to the child.

The metaphor of scaffolding: the time of (dis)satisfaction

The wide use of metaphors can even create the impression that it is not only a metaphor anymore, but has became an important theoretical concept in the socio-cultural psychology. However, contrary to persuasive power the metaphor has had outside of the socio-cultural psychology, it has been the object of many criticisms within it. Pea (2004) concluded "the concept of scaffolding has become so broad in its meanings (…) that it has become unclear in its significance (…) Perhaps the field has put too much of a burden on the term, and we need a more differentiated ontology to make progress." (Pea, 2004, p. 423). Additionally, Stone (1998) identified several criticisms of the metaphor of scaffolding from the perspective of the socio-cultural psychology. First, the metaphor can be considered to universalise a kind of interaction that is culturally specific to middle-class industrialised families and schools. Second, it puts too much stress on the adult-child interaction ignoring peer scaffolding. Third, the metaphor may create an impression that the adult-child interaction is one-sided and driven only by the adult suggesting a passive role of the child. Fourth, it assumes an idealised adult-child relationship neglecting that it might be also related with tensions, conflicts etc. Fifth, the metaphor might leads us to reduce our focus

on quantitative rather than on qualitative changes (e.g. reorganisation of activity and understanding). Sixth, criticism identified by Stone is concerned with the fact that the mechanism of development implicated in the metaphor is not specified in enough detail. However, in spite of important criticism, Stone came to conclusion that the scaffolding metaphor needs to be kept as a part of socio-cultural psychology.

The metaphor of scaffolding: a possible rescue through paying attention to additional relevant cases

It seems that the key tension between the scaffolding metaphor and what is represented by it is related in the fact that the metaphor comes from building construction and it refers to specific kind of human interaction. Beside similarities that make the metaphor attractive, there are also significant differences between using a physical scaffolding structure in, for example, building a house and dynamic, interpersonal, participative collaboration through which development and appropriation of new socio-culturally relevant competence takes place.

However, when Vygotsky (1934-1986) introduced his theoretical assumptions and key concepts, he made assumption not only about mediation and co-construction that happened through adult-child interaction. He also assumed the important role of cultural tools in the mediation of development of new competences. In this respect he used the example of the hammer. When one uses the hammer, the tool by itself shapes his/her activity. The way the hammer is designed supports certain forms of activity with a hammer as well as preventing some other forms of activity. With this idea Vygotsky anticipated the concept of affordance coined by James Gibson almost half century later (Gibson, 1977, 1979).

It is true that in an everyday context, cultural tools are typically introduced to the child by an other (usually parents or other adult) who demonstrate the way how it can/should be used, providing scaffolding in mastering and appropriation of cultural tools etc. (see Rogoff, 1990) In these kind of cases the dynamic relationship between adult and child might be more attractive for the reflection and analysis then relationship between the

child and the cultural tool. Though, what about cases when the child gets in direct interaction with a cultural tool, or perform a certain activity in the socially and culturally designed environment without a more competent other that could provide scaffolding and mediation? Could we still use the metaphor of scaffolding in such cases? And moreover, could it be that the metaphor of scaffolding is better suited to such cases than those cases where the development is co-constructed through the social interaction with a more competent other?

Scaffolding by design: co-construction through interaction with culturally structured environment

In this part of the paper, I am going to analyse some concrete examples based on which the term "scaffolding by design" is formulated. The first example is concerned with the physical arrangement of desks and chairs in the classroom. Imagine a classroom with desks that are fixed in the floor as well as student chairs (see Figure 1).

Figure 1. "Fixed" classroom design – students desks and chairs are fixed and cannot be accomodated to support different learning activities
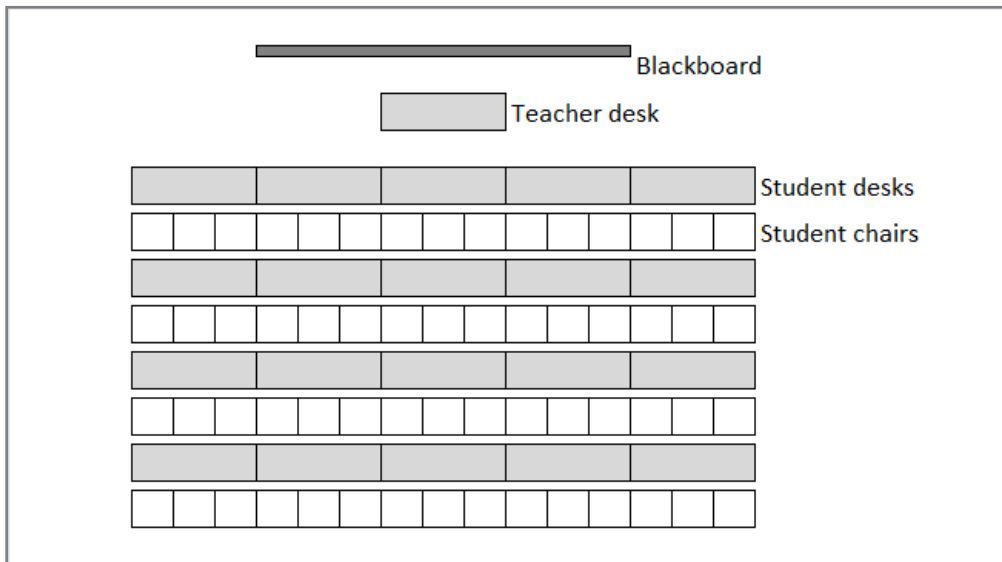
The classroom arrangement illustrated in Figure 1, with desks and chairs fixed in a way that supports students oriented towards a teacher, has several implications for the teaching/learning process. Such classroom design positions the teacher as a dominant actor and voice within the classroom. At the same time, neat spaces between chairs and desk rows make it difficult for students to get engaged in any dialogue or joint activity with other students. It is easy to imagine a frontal lecture in such classroom, but it is rather difficult to organise peer learning through collaborative inquiry. Therefore, in this kind of classroom we can expect that the dominant activity for teachers is giving lectures, and the dominant activity of students is listening. Moreover, it can be expected that prolonged participation in the arrangement "teacher gives lecture, students listen" will influence students to develop specific identities, competencies, and attitudes – e.g. students may experience high anxiety and low self-esteem regarding school learning, lack of argumentative thinking, dependency in learning etc. On the other hand, a classroom with "flexible" arrangement of desks and chairs (see Figure 2) different kinds of learning activities can be easily performed – it can be arranged for group work, for individual work, for frontal lecture etc. In such a classroom it might be assumed that students and teachers develop different kind of identities, competences, attitudes etc. than in the "fixed" classroom design. These two examples of different classroom design suggest that physical organisation can function as a scaffolding structure supporting development of specific activities, identities, and competences, even independently from individual preferences and styles of teachers and students.

Figure 2. A "flexible" classroom that can be easily (re)arranged for different kinds of learning activities (for example, group work)

Another similar example might be a pencil extension that supports children with the first steps in learning to write by keeping the pencil in the proper position (see right side of the Figure 3).
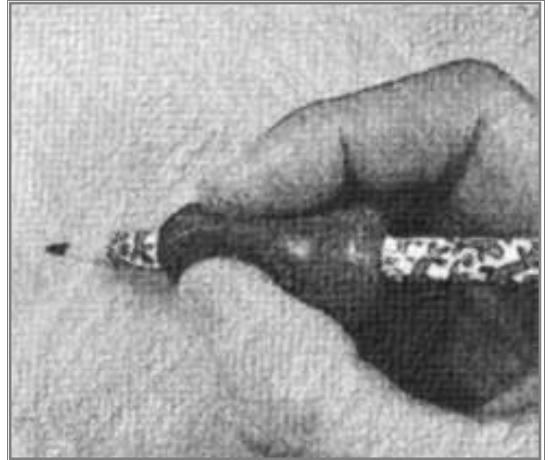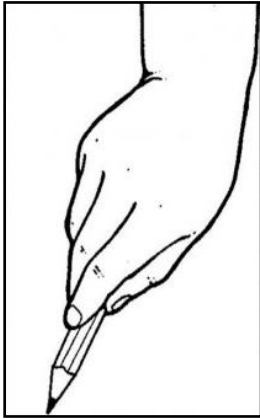
Figure 3. Traditional pencil (left) and pencil with extension device supporting children to keep pencil in proper position (right)

When children begin to learn to use a pencil for writing, the first challenge is to learn how to keep it in the proper position. The way traditional pencils are designed does not provide any guidance and support to the child on how it should be held. That is the reason why children experience difficulty in learning how to hold a pencil properly (see left side of the Figure 2). Typically, this is the role of parents to support children to learn how to position fingers, where to take a pencil, how to keep it etc. Parents usually help children by a demonstration and/or guidance by explanations and/or joint activity. Anyone who has this kind of experience knows that it might be difficult for children to master the proper way of holding the traditional pencil. However, nowadays there is an addition for the traditional pencil that is designed in such way to enable the child to hold it in the proper way (see right side of the Figure 2). When it is positioned on the traditional pencil, it "guides" the child by its shape towards the proper way of keeping it. At the same time, it is designed so to discourage the child

to hold the pencil in some alternative way. Therefore, this tool can provide support and guidance to the child in learning how to keep the traditional pencil in the proper way even without a mediation role from parent.

Conclusion: scaffolding by design more than metaphor

It is possible to bear in the mind different examples like those above: (a) a baby walking chair that provides scaffolding for learning to walk, (b) gym equipment designed in such a way to prompt a specific kind of physical exercises that supports the building of specific muscles, (c) computer software for learning designed to support a given activity that will guide and support students' learning etc.

These examples illustrate cases that depart in a significant way from typical scaffolding cases in which an adult or a more competent peer provides a scaffolding support for learning. In the "scaffolding by design" cases there is no visible other who guides and supports somebody in appropriation of a certain activity through face-to-face interaction. In these cases the guidance and scaffolding are inbuilt in the design. The design of instruments, equipments or physical spaces by itself channel, lead, guide, and shape the activity of those who actively use them or perform activity in a given space. It implicitly promotes, suggests, and prescribes certain kinds of activities, and prevents some other kinds of activities. In the scaffolding by design cases the other is present as well, but presence of the other is not direct like in the face-to-face interaction, but it is indirect and realised through the design. Moreover, in the face-to-face interaction the mediation of the activity by the other can be either explicit or implicit (Wertsch, 2007), while in the scaffolding by design cases the mediation is always an implicit one. Finally, contrary to the scaffolding provided by another within face-to-face interaction, in the scaffolding by design cases there is no possibility for negotiation and building inter-subjectivity since the other is not present, but represented by the design.

As it is discussed above, using of the metaphor of scaffolding in the case of face-to-face interaction has been the object of different criticism within socio-cultural psychology. It has been criticised basically on the

grounds that the scaffolding metaphor cannot represent the complex dynamic of a complex relationship between the child and the other who provides the kind of support enabling the child to develop and to learn. What happens when the metaphor is applied in the scaffolding by design cases in which the mediation and support are provided implicitly by the design? It seems that the critical remarks identified in the case of the face-to-face interaction are not applicable in the scaffolding by design cases. Interestingly, although the scaffolding metaphor was invented for the face-to-face interaction cases, it fits much better in the scaffolding by design cases analysed in this paper.

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WRITING AS A COMPLEX ACTIVITY – MEDIATING THE DEVELOPMENT OF MIND

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This article examines complexity in writing at high school and university level from a Vygotskian sociocultural perspective. Vygotskian research has long highlighted the importance of writing as a complex activity in the cognitive development of young children. What is less understood is how the dialectical interrelationship of thought and language involved in writing mediates development in students at secondary school and university level. The research questions addressed in this article are: How can the relationship between writing and meaning making in an educational context be conceptualized from a Vygotskian perspective? How does writing at high school and higher education level develop minds? What implications can be drawn from this for writing instruction and activities? We argue that the practices that students engage in to produce texts, as well as the ways in which writing practices gain their meanings, function as dynamic elements of specific cultural settings. To illustrate this we draw on two very different empirical case studies from a UK English secondary school classroom and a Norwegian initial teacher training programme in mother tongue didactics Norway. The first dataset is drawn from classroom observations of pupils aged 13-14 engaged in collaborative writing. We examine the relationship between exploratory talk, collaborative activity and the translation of inner speech in the production of a written text. The second dataset is drawn from observations of teaching activities in a teacher program. It also include students' portfolios and interviews with teachers and student teachers about their experiences and perceptions of portfolio writing.In this example from teacher education, we see how different forms of interaction bring different perspectives into the activity of writing. Writing works as a boundary object, bridging between different activities and the tools involved in accomplishing the activities.In our analysis of both cases the activities of writing involved in the translation between thought and written composition are conceptualized as mediational means with several interesting pedagogical functions for the development of mind. This involves talk with others on the level of communicative intermental activity ,the intramental activity of translating inner speech, and, in turn, to the abstract form of symbolizing that is writing. We conclude that the act of writing both school and academic texts involves a dialectical tension as a range of third parties, signs, symbols and words are brought into play both at a collective and on an individual level. Therefore the processes involved in writing both school and academic texts reflect the transformation and re-contextualization of mediational resources. Our two empirical cases illustrate how writing activities can enhance cognition and

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learning both at upper secondary level and in higher education because the processes involved are active, integrative, connective and available for visual review. Writing as a learning resource is significant as it mediates the mind's organisation of abstractions and generalisations required to achieve the particular phenomenon of composition.Thus, writing is an important dialectical tool for the development of thinking and learning through the transformation and re-contextualization of mediational resources.

Introduction

Vygotsky (1978) argued that writing is a complex activity that requires the conscious mastery of abstract thought through the mediation of psychological and physical tool usage. In our view the development of writing ability through the activity of writings crucial for cognitive development; writing is one of the most important learning resources in education. As Emig puts it:

> *Writing represents a unique mode of learning–not merely valuable, not merely special, but unique… Writing serves learning uniquely because writing as process-and-product possesses a cluster of attributes that correspond uniquely to certain powerful learning strategies. (Emig, 1977, p.122)*

Emig goes on to argue that writing is a unique form of learning because it is integrative, connective, active and available for visual review. Moffett (1992) describes the two most important activities involved in the act of writing as crafting and revising inner speech. Writing in this model is the ability to make our own thinking visible. Writing is also a social activity both in inception and composition. Britton (1970) states that our capacity to make sense of the world depends on our ability to manipulate language first through talk, then through inner speech and finally through written composition:

All that the children write, your response (as educator) to what they write, their response to each other, all this takes place afloat upon a sea of

talk. Talk is what provides the links between you and them and what they write, between what they have written and each other. (Britton, 1970, p.29)

The research questions addressed in this article are: *How can the relationship between writing and meaning making in an educational context be conceptualized from a Vygotskian perspective? How does writing at high school and higher education level develop minds*? *What implications can be drawn from this for instruction and activities in school?* We argue that the practices that students engage in to produce texts, as well as the ways in which writing practices gain their meanings, function as dynamic elements of specific cultural settings. Student texts and the processes of writing them will be conceptualized as reflections of students' *inner speech* (Linell, 2009) and as *re-conceptualizations* of different types of learning resources (Vygotsky, 1987).For the purpose of illustrating the complexity involved in activities of writing we will draw on two different empirical case studies from a state secondary English class for 13-14 year olds in the UK and a Norwegian initial teacher training programme. We argue that the processes of writing are dynamic, and form different functions through human life; our two different cases illuminate this complexity and illustrate how writing is a social activity both in inception and composition.

Theoretical Framework

Vygotskian research has long highlighted the importance of writing as a complex activity in the development of mind (Cazden, 1986; Emig, 1971; Moffett, 1992). The act of communicating with an abstract reader through the tool of written speech requires a level of 'deliberate analytical action' as the writer attempts to control the intellectual process of translating inner speech that is derived from social and cultural interaction (Vygotsky, 1986, p.182). The activity of writing has the particular potential to stimulate reflective and deliberate control in regard to concepts and language. The conscious reconstruction of semantic meaning through the mediation of psychological and physical tools within the activity of writing develops high order cognitive processes and growth (Habib & Wittek, 2007;Jahreie, 2010; Wertsch, 2007).

The concept of mediation is central in sociocultural literature (Leontiev, 1974;Säljö, 1999;Vygotsky, 1978; Wertsch, 1998, 2007). According to Vygotsky (1978), human consciousness is associated with the use of mediational tools, especially psychological tools or signs. As Wertsch (2007) puts it: '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' (p.178). The act of writing involves employing a sign system in a sophisticated way in an attempt to communicate with an unknown interlocutor. This act of abstraction forces students to write more than they initially understand or intend by drawing on and internalising a sign system as a psychological tool and, in so doing, to develop higher order cognitive processes. When formulating sentences, the writer can hear their own voice, almost as they hear the voices of others. In this way the writer draws on the situated cultural and contextual resources which are inherited from social interaction and which are then transformed though the activity of producing a text.

Cazden (1986) suggests that a close examination of Vygotsky's views on the process of writing, as opposed to the formation of speech for others, requires us to extend our analyses of the transfer of cultural tools and to consider how inner speech becomes writing through the use of symbols. Children learn to write when they attempt to draw speech or when writing as second-order symbolism eventually becomes direct symbolism. By adding the constancy of written language to the immediacy of spoken language a speaker is able to reflect upon meanings. In so doing a new level of language control is developed that allows a critical awareness of a person's own thought process. Mastery of the process of written composition is therefore central to the acquirement of abstract thinking:

The change from maximally compact inner speech to maximally detailed written speech requires what might be called deliberate semantic- deliberate structuring of the web of meaning. (Vygotsky 1986, p.182)

In our view the history of the school pupil's mastering of writing is integral to the movement from interpersonal social interaction to the intrapersonal development of abstract thought. Britton, Burgess, Martin, McLeod& Rosen (1975) describe this process as 'the dialectical interrelationship of thought and language' (p.39). Britton et al. assert the

primary importance of the expressive function in the development of an adolescent's learning because it builds on 'linguistic resources - the knowledge of words and structures he has built up in speech' (ibid, p.82).The expressive mode, in terms of development, 'is a kind of matrix from which differentiated forms of mature writing are developed' (ibid, p.83). Yet it is also worth pointing out that students write at all levels of education with increasing levels of complexity. Although many cognitive developments take place in early childhood Vygotsky arguedthat other higher order psychological processes may only emerge at secondary school age:

> *For the young child, to think means to recall; but for the adolescent, to recall means to think. (Vygotsky, 1978, p.51)*

In Vygotsky's view social learning precedes individual development. As Bazerman (2009) puts it 'learning prepares the learner for new stages of development' (p.284).If learning to write is developmental for the young child's mind then learning to write analytically though a process of recall for the older student introduces a higher level of complexity and hence development. Research in compositional studies (e.g. Bazerman, 2009; Prior, 1998)suggests that academic writing develops high order analytical and critical concepts. Indeed new forms of student writing are often accompanied by the claim that writing enhances learning (e.g. Fulwiller, 1991). Therefore the processes involved in writing both school and academic texts reflect the transformation and re-contextualization of mediational resources. Thus, writing is an important dialectical tool for thinking and learning for the development of mind at all levels of education**.**

Writing makes us manipulate our own thinking and make us conscious about it: as we make our own thinking visible and concrete, so we can interact with our own ideas. Such insights have been confirmed in a range of later studies (e.g. Dysthe, 2002; Lerner, 2007) that suggest that writing enhances processes of learning. Research in this field has shifted its focus from strictly cognitive accounts of learning to social influences on cognitive activity (Smagorinsky 1994), and this article falls within the latter line of work. From a sociocultural perspective, written texts are not inert objects, complete in themselves as bearers of abstract meanings. They are 'emergent, multiform, negotiated in the process, meaningful in the uptake, accomplishing social acts'(Bazerman & Prior, 2004, p. 1). Thus, as the

processes of writing are developed in interactions in real social settings, so the tool of writing for learning is unique and developmental in each educational situation.

Talk and Writing as Tools for Development

Sociocultural and activity researchers (e.g. Engeström, 1987; Mercer, 2008; Moll, 2000; Smagorinsky, 2007; Wertsch, 1979) have developed through empirical studies Vygotsky's theoretical framework of psychological development through social interaction. We follow in the following empirical case studies Mercer's (2008) insistence on the centrality of talk in the development of thought as being consistent with Vygotsky's insistence on the importance of intermental activity. Mercer (2000) describes language as a tool for intermental thinking through which we jointly engage in intellectual activity. The essentially dialogical nature of this situated activity of communication is based on 'the interplay between situated interactions and sociocultural resources and practices' (Linnel, 2009 p.57). However, we are also concerned with the dialectic between 'a material sign form...and the object-oriented intentions of speaker or listeners' (Wertsch, 2007, p.185). The act of writing, as opposed to its dialogical precursor of social talk, involves a dialectical tension as the writer attempts to translate the interpersonal world of communicative activity first through inner speech and then by the use of the abstract form of symbolizing that is writing (Thompson, 2012a). As Vygotsky (1987) puts it, the 'movement of thinking from thought to word is a developmental process' (p.250). As talk is a tool for intermental social development so writing can be viewed as a tool for intramental development.

In the following sections we will look at two different contexts to illustrate how writing can form a mediational tool for semantic meaning making, and the significance of how activities of writing set a whole range of resources into play. Both our cases illustrate ways of organizing writing activities in ways that integrate talk, inner speech and written composition as dynamic elements of the process. Each context involves unique sets of tools and communities of learners.

From Talk to Text in Collaborative Writing

The following sequence is drawn from video data of an English class for 13 to 14 year olds in an inner city school in the UK. This first empirical dataset illustrates how complex and multifaceted interaction occurs in a collaborative writing task, and how the actions related to writing and the text that is gradually created on the data screen form a mediational tool for development. Andy, Dwayne, Helen and Eva were involved in a group task of writing a magazine for their parents. Eva and Helen were from the editorial team and Dwayne and Andy had been asked to write articles. Both boys were extremely reluctant writers but had been persuaded to write on a soccer match and school uniform respectively. The potential for conflict between writers and editors remained throughout the sequence. The following heated exchange is fairly typical:

Dwayne:	They're just criticizing our work. They don't do anything but criticize.
Helen:	Shut up.
Andy:	They're not listening to our points.
Helen:	We are.
Andy:	You are busting my work.
Teacher:	Isn't there some value in constructive criticism?
Eva:	That's what we're trying to do.
Helen:	We're trying to help you.
Andy:	Then talk, don't just tell us.

In one sense the interaction of the pupils is an example of Mercer's categorization of 'disputational talk' whereby 'the participants work to keep their identities separate and to protect their individuality' (Mercer, 2000, p.173). Although the teacher's open question is aimed at both sides of the argument and is intended to prompt a dialogue it is Andy's request for "talk" that suggests he is ready to enter into dialogical discourse. From here onwards, there is progress in the discussion and Eva is able to make the point that the whole group needs to "work together".

> *Eva: We have to work together. Everyone has their jobs and everyone has to listen to each other. Remember we are writing*

for other people to read and we have to make it good. We'll come and help people but we're doing it together.

At this point Eva actually stood up in front of the group and invited questions from the rest of the pupils by saying, "What do you think?" The pupils appear in the video data to be decisive and organized and can be seen taking turns to speak. At times some of the pupils' body language appears to be quite negative and both Eva and Dwayne can be seen gesticulating. However, at other times, they can also be seen nodding and looking at each other. This gestural evidence suggests now that the group has begun to develop their ability to collaborate and show confidence in their roles. In fact the pupils' talk moves to what Barnes (2008) categorizes as 'exploratory talk'(p.5) despite the still simmering potential for dispute. They have, in fact, established the dialogic condition conducive for their learning to develop.

After this exchange Eva went over to help Dwayne who had started to write a part of a sport article. The article incorporated a review of a soccer match in which Dwayne had apparently played a starring role. In the video evidence Dwayne initially reads and corrects his own work whilst Eva stands behind him occasionally pointing over his shoulder at the screen. Dwayne sits at the front of his chair with his face close to the screen and his shoulders hunched as if he is trying to screen the computer monitor from Eva. Eva reads the article and can be heard mumbling some of the words and repeating them in a slightly revised order or with a different emphasis. For example, she can be heard changing the line, "It was a really tough and long match" to "The match was long and tough." Dwayne pointedly ignores any suggestions she makes and says nothing to her at first. Dwayne then begins to read his own work aloud and Eva leans over to touch the keyboard and adds some punctuation and begins to change some of the sentence structure.

At this point Dwayne can be seen leaning over to allow Eva better access to the keyboard. The sentence, "I scored a great goal the best I had ever done", becomes "I scored a great goal! It must be the best I ever scored!" Dwayne then reads this and says he is not sure whether it "sounds right". Eva says it "looks better" but changes the second exclamation mark to a question mark. By "sound" Dwayne may have meant "read" but it appears he also has a sense of an oral report in his mind whereas Eva concentrates on the visual appearance of the written words. Eventually Dwayne changes the

line to, "It was my best goal ever." Both Eva and Dwayne express their happiness with the line and Dwayne feels it is less "big headed."

Although Eva was technically in a position of authority over Dwayne in this exchange as she was the editor and he the writer, their discourse established a collaborative activity that resulted in a qualitative change in his writing as he moves from reportage to the expressive mode. When Eva left, Dwayne continued to write alone often sounding out inner words before writing, reading whole sentences aloud, cutting and changing words. The resulting text was both substantially longer than normal for Dwayne but, in both his and our opinion, qualitatively better. We reproduce the last few lines here.

> *The match felt long and tough. I was tired. On my last legs. Then the ball came over and I turned and hit it. Smack. A screamer. Top corner. Great goal. It was my best goal ever. I had won the game. WE had won the fight.*

The movement from exploratory talk, through collaborative activity and the translation of inner speech enabled Dwayne to produce an emotive and expressive written text.

Portfolio Writing as a Boundary Object

This second empirical example is taken from an on-going study investigating writing as a learning resource at different levels in Norwegian education.[15] Here we draw particularly on the data from an initial teacher training programme in mother tongue didactics[16]. This second case holds a wider context for the activity of writing. The adult students involved in this scenario are supposed to write a portfolio during one academic year. The assignments draw on their experiences from practical training and they are asked to reflect upon them in relation to their role as a future Norwegian teacher. Portfolio writing is a core element of the study structure in this teacher program, and it is used both as a tool for learning and assessment. At

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[15]The data referred to includes submitted portfolios, video observations, and interviews.

[16]All the 13 student teachers had finished their bachelor's or master's in linguistics or Scandinavian language studies in advance.

the end of the year the individual portfolio as a whole is submitted for summative assessment.

Students produce individual portfolios comprising nine different assignments including the following:

> A report from an observed Norwegian lesson;
> An interview with a student;
> A critical comment about a syllabus book,
> ***Reflection log on the program as a whole.***

The teacher gives written responses to most of these assignments; students also present outlines in class and receive and give responses to each other. According to the university teacher from this case study, the intention of this particular portfolio practice is to enhance *student reflections*. The university teacher also uses the short written assignments as a point of departure for discussions in class. In an interview he states: "I have been working a lot with reflection logs myself, and I think that this kind of reflection and clarifying of thoughts gives an opportunity to participate with confidence in plenary discussions". As Moffett underlines (1992), writing is both crafting and revising inner speech. The intentions that the university teacher talks about here, exemplifies how writing can form a unique mode of learning. As earlier underlined, writing is integrative, connective, active and, finally, visible for visual review both for the student and the persons she shares her insights with (Britton, 1970). Based on the overall analysis, the portfolio writing emerges as an important tool for learning and reflection in this program. A professional teacher in mother tongue didactics needs to develop skills and knowledge from different areas, and the portfolio writing does in this case help them to highlight and elaborate on different parts of the complexity they are facing. The different assignments make them investigate certain phenomena in depth. The student teacher Hege, for example, investigates what one of her pupils thinks about writing activities in school (assignment number 2). The boy in a comprehensive school that she interviews has nuanced reflections about writing and the different functions of activities of writing. He underlines several times in Hege's transcription that he learns a lot from writing: "Teachers should let us students write about things that we are going to learn, it makes it easier to learn.(…). Writing

forms you as a person and it helps you understand." He argues that teachers should let the students write more often, particularly about the central themes, because it makes it easier to learn.

When Hege comments upon her future role as a teacher, she discusses how she can use writing as a tool for clarifying thoughts as the young student suggests. She adds that it is the same for her – writing helps her clarifying her own thinking. We see here how these different two people (one 14 year old and one adult) articulate how writing develops high order analytical and critical concepts (Wittek, 2007). The activity of writing about the different tools they are introduced to during practical training makes them recontextualise these tools, and they become structures of higher order cognition. Hege discusses several crucial dimensions of being a professional teacher, like the importance of keeping her class silent and focused. In assignment 4 she writes "… my supervisor did not hesitate to let me know when something wasn`t good enough. I need to develop myself when it comes to keep focus. There is a tendency that initiatives from students make me lose focus". In another part of her portfolio she describes in detail how she planned and conducted a Norwegian lecture. She reflects upon both the successful parts of her lecture and the less successful ones. Finally she suggests some changes that she will do for the "next time". In her portfolio she continuously draws conscious lines between different aspects related to mother tongue didactics and the "art" of teaching it. She raises different voices (experienced teacher, the university teacher, students), and she draw lines towards imagined situations in a future position as a teacher and between different tools. This particular portfolio design appears as a '*boundary object*' from the overall analysis. This notion is borrowed from Star and Griesemer (1989, p. 393), and refers to a mediational tool that acts as an anchor or bridge between different activities and tools involved in the activities. Boundary objects are both robust and flexible: they can be adapted to different local needs, but they maintain a common identity across time and space (op. cit.). For Hege the portfolio writing certainly stimulates complex forms of meaning making related to her role as a teacher.

All of the student teachers involved in this case write explicitly in their portfolios that they think of the course as good and relevant for their future job as a Norwegian teacher. The portfolio writing is underlined by

some of the students as an important part of their learning process. Nora states for example that

The fact that we have had our portfolios to work on, is from my opinion positive. This has made us:

reflect upon our own teaching [during practical training],
make decisions about our own points of views,
listen carefully to both students and experienced teachers.
Unfortunately I believe that students of today don`t do more that they have to. That is why this portfolio is so important. [The writing] forces us to reflect on the subject matter, on the choices that we have to make as teachers.

Another student teacher, Anne, makes some of the same points as Nora, stating that:

Working with the portfolio that we now shall submit, has been tough [referring to the workload]. At the same time it has made me more conscious about my own experiences of teaching, about the syllabus and about other people's reflections on being a Norwegian teacher.

Activities of Writing within Social Activity Systems

Students' collaborative processes of writing within social activity systems have been highlighted in recent research in higher education (e.g. Dysthe, 2002; Blåsjø, 2004; Krampetz, 2005) that concludes that writing in its different forms has the potential to support processes of reflection and cognitive growth through the process of mediated activity. However, we will argue that to develop the mediating potential of written activities within a group of students, activities of writing, and the social interaction that precedes it, must be organised in ways that give opportunities for the developmental sharing of thoughts and ideas. In the example from teacher education, we see how different forms of interaction bring different perspectives into the activity of writing. Writing works as a boundary object, bridging between different activities and the tools involved in accomplishing the activities. The student teachers have to listen carefully to both students

and experienced Norwegian teachers that they interview during internship. In class at the University they have to share and discuss their assignment drafts with the university teacher and with other students. Interaction through talk is an integrated part of the writing activities in this program. In internship the student teachers practice as reflective Norwegian teachers under supervision from experienced teachers. Thus, this way of organising portfolio writing has a potential of enhancing the conscious reconstruction of semantic meaning making. The pupils in the English classroom were allowed to establish and develop dialogic interaction from an unpromising position of conflict. This, in turn, allowed our example Dwayne to develop as an expressive writer through the activity of writing an article about soccer. In both of our cases we see that writing makes thinking visible and concrete in ways that make it possible for a reader to interact with their thoughts. Such processes have both individual and collective dimensions, and in both the English classroom and the Norwegian University we can see how these relations are made visible and possible to act upon.

The Role of Play and Experiment in Activities of Writing

Vygotskian and cognitive research on the 'writing to learn' movement in the USA (e.g. McCutcheon, 2008; Smagorinsky, 2007) suggests that introducing an element of play or experiment into the activity of writing allows writers to develop and challenge their own ideas. Bazerman (2009) argues that the contexts of 'genre, situation and social activity system' (p.282) call in to play a variety of writing processes. According to one of the student teachers from our second case,Kari, portfolio writing is "fun", something that she enjoys (in contrast to writing academic essays). She states that "In these texts I can write and play with words and sentences, I`m not so bound." All the students comprised in this case study make similar statements that they enjoy the portfolio writing and find it a useful tool for reflection. In this process they become more conscious about the rationale for their actions as teachers.

Writing then can be conceptualized as actions of bringing together different signs, symbols and words into new senses of "meaning" within a particular social activity system. These processes are dialectical in nature: we

are social beings, thoroughly dependent on each other as we develop our cultural and social understanding of the world around us. The process involves both tension and conflict between sign system and intentions. In the UK school example a potential for conflict between writers and editors is present throughout the whole sequence. An interesting gestural movement is visible during the activity when, at an early stage in the process, Dwayne tries to keep Eva away from his work by hunching his shoulder as if he is trying to screen the computer monitor from Eva. However, they end up rewriting Dwayne's draft in a manner that both of them find acceptable. Writing the article becomes a social activity both in inception and in composition and the translation of inner speech here involves active collaboration.

The communication between Eva and Dwayne gradually moves into exploratory talk, and thus the potential for cognitive development is established. Students have to negotiate how to deal with the institutional task that lies ahead of them and the cultural expectations of active agents in that situation. Eva as an editor might search for support in how her teachers normally supervise the students, and she might have some ideas about the tasks of a journal editor. Dwayne, on the other side, seems to relate his role to the same conventions as he normally does as a student, and he clearly does not like not like Eva taking on the role of the teacher or significant other. However, in these negotiations they search for support from previous experiences and a range of third parties originating from other contexts and social experiences. Invisible dialogue partners are present in all their utterances (bodily or verbally), but in the particular situation of the here and now they have to choose a proper way of using the resources available in ways that correspond with the contextual "rules" and the task given by the teacher. Recent Vygotskian research on young and adolescent pupils experiencing difficulties with writing suggests that attention needs to be paid to the forms of social interaction played by active agents of change within mediated activity in the classroom (e.g. Bøttcher, 2011; Fisher, 2011; Thompson, 2012b). Teachers of reluctant adolescent writers like Dwayne are therefore concerned with helping their pupils to develop the ability to write independently within the social contexts that both affect and influence social interaction within the classroom. By secondary school level many pupils have built up resistance to writing from their own past history of failure. The

task for teachers of writing is to help create the social and environmental conditions for play and experimentation through writing that allow pupils to become both subjects and agents of their own transformation.

The Transformation of Sign Meaning through the Activity of Writing

Vološinov (1973) states that 'To understand another person's utterance means to *orient oneself with respect to it*, to find the *proper place for it in the corresponding context'* (p. 102). In the same way the processes of writing *involve* interaction, not only with culturally developed tools (such as instructions on how to write a portfolio assignment), but also with a variety of others on the periphery which we may call *third parties* (Linell, 2009). Dialogue partners can be physically present; in both of our cases there are a range of people that the writers interact with directly or in a figured sense. In the school example Eva, leaves Dwayne but he continues the dialogue internally as he writes. These acts of communicative activity can be defined as 'dynamic, living activities, subject to alterations as situations, cultures and time changes' (Linell, 2009, p.198). In our teacher training case, we certainly see how the students continuously have to work with different experiences and to relate them to another. *Agency* and *consciousness* are in light of this conceptualisation related in processes of writing and learning (Linell, 2009). Agency involves the individual will to intervene in the world. Action is, almost by definition, intentional and conscious. At the same time, one's own consciousness invokes the voices of others.

G*eneralized others* can also take on the role as dialogue partners. Generalized others can be ways of arguing or thinking that are typically embraced in any disciplinary or professional culture, like the profession of teaching mother tongue. Thirdly, dialogue partners can also be *speech genres* and *social languages* to whom the writer may relate in thinking and acting (Linell, 2009).Vygotsky (1986) argues for an emerging writer the complex activity of writing 'enhances the intellectuality of the child's actions' (p.183). At adolescence spontaneous and scientific concepts transform into important cognitive resources through the development of writing abilities (Britton et al.; 1975; Moll, 2000). Russell (2010), from the context of writers in higher education, argues that there are profound dialectical contradictions within a complex activity system such as writing.As illustrated above, Eva and Dwayne, as well as the interns in Norway, have different paths of

bringing together third parties and other resources in new and creative forms, and these dialectical and transformational processes are exactly what make it possible for them to make meaning.

The activity of writing is a practical way of manipulating signs and words and the relationships between them. Vološinov (1973) makes a crucial linguistic distinction between a sign that can be understood and a signal that may be recognized. Vološinov stresses the dialectical nature of the sign which he describes as 'always changeable and adaptable' as opposed to the 'stable and always self-equivalent signal' (Vološinov, 1973, p.68). Dwayne's description of his goal took on an almost poetic quality as he reflected on his representation of his goal through words. Instead of scoring simply a goal, he scored 'a screamer'. This illustrates how writing becomes a mediational means for deliberate reflective activity. The different tools involved in the activity transform into important cognitive resources when they become interrelated. Processes of writing thus have a strong potentiality of enhancing such interrelation. Written language demands conscious work because its relation to inner speech is different from that of oral speech: the latter precedes inner speech in the course of development, while written speech follows inner speech. Written speech is considerably more conscious, and it is produced more deliberately than oral speech. Written language presupposes the existence of relevant practical experiences, while the act of writing implies a translation from inner speech. Consciousness and volitional control characterize the child's written speech from the very beginning of its development. Signs in writing and methods of their use are acquired consciously. Writing in turn enhances the intellectuality of the older student's actions. The activity of writing 'brings awareness to speech' (Vygotsky, 1978, p. 183). In both of our case studies we see examples of students relating and interrelating their experiences from a range of contexts and make them relevant for the educational task. The sign meaning develops through the activity, and the function of the sign is internalized and transformed through cognitive development.

Conclusions

The transformative developmental relationships between social interaction in educational settings and the individual thought processes required for writing are both necessary and difficult. Writing is a complex activity that requires the conscious mastery of abstract thought through the mediation of psychological and physical tool usage. It is also contextual and situational, as the interaction in itself constitute the paths of individual and collective meaning making. Our two empirical cases illustrate how processes of writing can enhance cognition and learning both at upper secondary level and in higher education; activities of writing used for educational purposes can play a crucial role in learning, because they are integrative, connective, active and available for visual review. Writing forces students to write more than they initially understand or intend; this is the case both in the English classroom and for the Norwegian student teachers. But in so doing, higher order cognitive processes are developed. Academic writing develops high order critical concepts; it reflects the transformation and contextualisation of mediational resources.

However, writing activities must be organised so that the writers get involved in integrative, connective and active exploring. Written speech requires a level of 'deliberate analytical action' (Vygotsky, 1986, p. 166). When the student teachers writes about their experiences from internship in the light of theoretical models that are introduced at the university, they must control the intellectual process of translating inner speech that in turn is derived from different social and cultural interaction. The inner speech of students becomes visible to themselves as soon as a written piece of text starts developing. The dialectical process between these reflections and activities of writing and rewriting enhances learning in a most powerful way.

We started our text by referring to Emig (1977), stating that writing is a unique form of learning. However, these processes of learning are largely invisible. Our approaches to investigate the relationship between writing and student learning are theoretical, and our conclusions are also based on theoretical constructions. The two cases illustrate these conclusions. Written assignments that are given to students for the purpose of enhancing student learning need to be designed in ways that make students elaborate on scientific concepts as such, but also the relationships between them and other

types of concepts. Sign meaning evolves and it develops through the use of signs. Writing as a learning resource is significant as it represents abstractions and generalisations of a certain phenomenon. It requires a double abstraction: abstraction from the sound of speech and abstraction from the interlocutor. Activities of writing open up possibilities for a new and higher plane of thought. The new higher concepts in turn transform the meaning of the lower. Through activities of writing, spontaneous and scientific concepts transform into important cognitive resources: they become interrelated.

To enhance learning, writing assignments should include the following key design elements:

Allow opportunities for talk about the assignment before writing.

Introduce elements of play or experiments into the activity of writing, as this allows writers to develop and challenge their own thoughts.

Make students interrelate experiences from different contexts and to relate between different mediational tools and dialogue partners, as this enhances reflective awareness and cognitive development.

Language has been described as the most important of all human artifacts (Leontiev, 1974;Linell, 2009). But according to Barton (1994, p. 66), it is not so much the language in itself that mediates, but *people using language*. Language mediates our thinking and learning, and writing can do so in a most powerful way.If we are to believe Vygotsky, writing is an extremely powerful tool for learning at all levels of education. The strength of writing as a learning resource is first and foremost connected to the function of reflective and deliberate control of the *word*, the word's *meaning* and the word's *function*:

If language is as old as consciousness itself, and if language is a practical consciousness-for-others and, consequently, consciousness-for-

myself, then not only one particular thought but all consciousness is connected with the development of the word (Vygotsky 1986, p. 256)

We believe that both the development of writing as well as the activities of writing are important learning resources in education. The two most important activities involved in the act of writing are the crafting and revising of inner speech to create a communicative text. This involves the writer's active engagement with dialogue partners or generalized others. Writing in this sense can be seen as a dialectical tool for thinking and learning that develops from socially mediated activity and through 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).

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(Re)becoming a teacher

STUDENT TEACHERS' TRAJECTORIES OF LEARNINGTHROUGH EDUCATIONAL DISCOURSE SPACES

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The aim of this paper is to present an analytical lens for the purpose of studying students' trajectories of learning during an educational programme and into their first job, taking the situated and socio-cultural nature of professional learning into account. The model takes its departure in three theoretical concepts: *discourse space*s, *identity formation*(Gee, 2000) and *learning trajectories* (Wittek, 2012).An ongoinglongitudinal study investigating how trainee teachers build their competence and knowledge about early literacy in Norway and Sweden will be referred to for the purpose of illustrating how the model will be applied in one concrete research study. The paper is primarily a theoretical and methodological contribution.

Discourse space

Here, a discourse space is conceptualized as a social system "operative for interpretation at a given time and place" (Gee, 2000, p. 110).Discourse spaces are socially and historically constituted, and the personal level of learning trajectories can never be separated from culture and context. Nevertheless, in this paper we highlight the individual aspects of learning trajectories through educational discourse spaces. The discourse spaces that students participate in form crucial forces in how they structure learning trajectories, as they recognize particular actions, thoughts and values exhibited by the students over others.

Professional knowledge is operationalized and made available to students in the form of core resources, conceptualized here as epistemic objects (Lahn, 2011). Epistemic objects can appear as material or symbolic, in which the latter refers to objects that are heavily based on language and communication. Secondly, they can be dialogue partnersthat we interact with both directly or indirectly, and thirdly they can appear asthird parties (Linell, 2009), which are typical ways of thinking and acting, leaning on professional

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practices that we tend to adopt as "how it is done". However, these different representations of epistemic objects do not have clearly defined borderlines (Wartofsky, 1973, Habib and Wittek 2007). For example, the playground in a preschool will consist of several physical tools, as well as the symbols brought into play when adults and children talk about toys and use them. They even appear as third parties when children are instructed to use the equipment "as they normally do". And it is in the interaction with other persons that the various representations of the epistemic objects are realized in ways that enhances particular forms of meaning making.

A discourse space is constituted by the epistemic objects brought into play in a given context, as well as from the tensions and interplay that unfold between them and their users. Students author their own meaning making in the sense of creating or recruiting some interpretation of the epistemic objects that they face, and also by contrasting and comparing different experiences toward one another. To elaborate further on the process of meaning making, we now turn to the concept of learning trajectories.

Learning trajectories

The concept of learning trajectories focuses on processes in which students appropriate ways of acting and thinking, as well as on the use of tools embedded in the profession or related disciplines (Wittek, 2012). The concept also captures how these experiences are interpreted and reconceptualised in creative ways, hence transforming into structures in students' individual meaning making (Vygotsky,1978;Linell, 2009). Processes of exploring different experiences in relation to one another are important in students' meaning making, as these are actions of bringing together different signs, symbols and experiences into new senses of "meaning" (Wells, 1999). The discourses are social and historical, though a person's trajectory and meaning making are individual, thus an individual identity is socially formed and informed.

Even so, students cannot make sense of anything without a language or other sort of representational system such as the academic culture at a university college on the one hand, and at the preschools they participate in

on the other. The cultures are made available for students by epistemic objects, as presented in the previous section. The student must negotiate his/her own professional learning trajectories through dialogue, partly overt, partly internal. These processes involve other people, different resources and third parties available in the related cultures.

Each student has unique trajectories through the discourse spaces they participate in during education, although the individual trajectory of learning also heavily depends on social experiences from the past and imagined activities in the future, as learning trajectories will always have traces of the present and the past (Bakhtin, 1981). In a certain order over time, the student has had specific experiences within specifically recurring events while others do not, with learning trajectories dealing with the person's individual way of connecting and relating these experiences. To elaborate further on the individual level of these learning trajectories, we now turn to the third part of our model.

Identity formation

Professional identity depends crucially on how other people recognize the actions, thoughts and values exhibited by the student. Gee (2000) states that:

> *Being recognized as a certain "kind of person" in a given context, is what I mean here by "identity". In this sense of the term, all people have multiple identities connected not to their "internal states", but to their performances in society. (p. 99)*

Four ways to view multiple identities can be identified as (Gee, 2000, p. 100): nature-identity, institution-identity, discourse-identity and affinity-identity. These four strands of identity co-exist and are woven together in personal learning trajectories, but for the purpose of analysis, it is fruitful to ask what strand or strands predominate in certain activities, and how identity is functioning for a specific person in a given context or across a set of different contexts.

Four strands of identity

The first strand holds identity as a state developed from forces in nature, which is due to genes, neurological aspects or a student's mind as it has been modified by physical or social environments during life. Natural identities can only become identities because they are recognized by the person them self or by others. Identities develop through the work of institutions and how discourses and dialogues are constituted and played out. For instance, a preschool student teacher can think and talk of them self as a person who has always enjoyed being with children, and who has been frequently told by their parents and friends how well he/she communicates and plays with children. The student teacher's personal view of them self has therefore been recognized and enhanced by his/her environment.

The second strand is institution identity, which refers to different positions authorized by authorities within institutions. Being a student at a university college is a formalized position, and not something that is given by nature. The source of a role as a teacher student, and what subsequently accompanies such a "position", determines to what degree the person is a "subject". The source of this role is not nature, but the institutions that frame his or her role within an institution. The ECE student teacher might be recognized for his/her natural talent for communicating with children during teacher training, but might also obtain feedback that structures his/her professional identity in significantly different ways. Moreover, he/she can even choose to quit the programme. The potency and entitlement connected to the position of student teachers comes from authorizations stemming from laws, rules, traditions or principles of various sorts. Having institutions of different types ensures that certain people behave in certain ways and not in others, which is a particularly interesting strand of identity formation for acquiring knowledge about what kind of professionalism programme-related contexts enhance for their students.

Discourse-identity is the third strand of identity formation, and in an analysis related to educational programmes, this will be closely linked to institutional identity. This strand refers to an individual trait recognized in the discourses or dialogues that unfold, which is not just something one can achieve all by oneself, but something that a discourse or dialogue creates and maintains up. Gee states that "the power that determines it or to which my

friend is 'subject' – is the discourse or dialogue of other people" (p. 103). It is only because other people treat, talk about and interact with a specific person in ways that recognize that person as being" creative and full of fun" that he/she appears as such, and not because he/she is forced to be imaginative and bouncy by ritual, tradition, laws, rules or institutional authority. Discourse identities can be placed on a continuum in terms of how active or passive the student is in "recruiting" them, i.e. in terms of how many such identities can be viewed as merely being ascribed to a person versus an active achievement or accomplishment of that person. Our example student can actively take on new identities as he/she is introduced to a repertoire of professional identities as an ECE teacher in education-related contexts, but he/she can also deny appropriating them.

The last type of identity is affinity identity, and "the power that determines it or to which the person is 'subject' – is a set of distinctive practices" (Gee, 2000, p. 105). Hence, the process through which this power works is participating or sharing. For members of an affinity group, their allegiance is primarily to a set of common undertakings or practices, e.g. the way that the internship institutions work with early literacy. Secondly, members of an affinity group are committed to other people (the children in the preschool) for these practices to exist. Affinity-identities stay focused on distinctive social practices that create and sustain group relationships, rather than directly on institutions or discourse/dialogue. The student teacher will meet different affinity groups during his or her education, different practices regarding disciplines and ways of thinking and acting that they advocate and different teachers/supervisors or cultures of internship institutions.

Towards an analytical lens

To achieve insight into students' trajectories of learning, it is of particular importance to analyse activities in programme-related contexts (Habib and Wittek 2012), how students act in them and how they interact with resources, other people and third parties. The table below designate show the three core concepts can be transformed into concrete analytical questions in one particular study.

Table 1. Analytical question of the study

Concept	Analytical questions related to empirical example
Discourse space	What epistemic objects are the core ones regarding early literacy in the preschools and in other educational contexts? In what ways are these epistemic objects put into action, and what tensions between objects and the persons using them can be identified?
Learning trajectories	How are mandatory institutional experiences regarding early literacy unpacked and interpreted by students, college teachers and ECE teachers? How do ECE teachers/student teachers relate different experiences toward one another?
Identity formation	How do ECE teachers/student teachers talk about their motivations or reasons for choosing the programme in terms of a state of their nature developed from forces in nature or social environments? What characterizes student teachers' practices and conceptions of their roles as students on the one hand and as future ECE teachers on the other? What type of values and performances are recognized in the discourses or dialogues that unfold in the preschools? What do newly educated ECE teachers regard as distinctive experiences in their professional identity formation?

In the aforementioned ongoing study, the model is used to investigate how students and newly educated ECE teachers express and "try out" some combination of performances that refer to some specific way of combining identities, thus structuring their learning trajectories in specific ways. We also look into how relevant discourse spaces act as important sources in how

our informants author their own meaning making in the sense of creating and recruiting an interpretation of the epistemic objects they face.

Trajectories of learning through discourse spaces can form a useful approach for the purpose of investigating the significance of certain discourses and learning resources available in educational programmes. The student teacher participates in a range of different discourse spaces rooted in various disciplines. In addition, they experience different professional cultures during internship, as they continuously negotiate their professional identity in the different social systems they participate in as being operative for interpretation at given times and places. In their first job as an ECE teacher, they go directly into professional obligations in several manners, often with few other "professionals" to talk with. The significance of these experiences relies on how teachers, supervisors in internship, peers and colleagues recognize their actions, and how the individual person creates meaning across the various discourse spaces he or she participates in.

One crucial question that educationalists should frequently ask is this: How do institutions construct and sustain given discourse spaces, and in what ways do these enhance trajectories of learning?

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SOCIAL LIFE OF ONE ARTICLE[18]

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Živka Krnjaja
Maša Avramović

What is a destiny of a scholarly article? Published in scientific journal, it becomes available to scientific community, potential resource for other researches, possibly affirms the author… But how much does it influence educational practice? Our focus was to strengthen social life of the article, to overcome the theory–practice dichotomy by the action research. Meaning of the article in the context of practice, and practice in the context of the article, was explored through researcher-practitioner collaboration. The Article addressed issue of relationships as foundation and scaffold for entire child development and learning. The relationships are seen as contextual systems – with adults, peers, physical environment and community, and dyadic system. The quality of relationships has been considered from the perspective: of child through dimensions of safety, continuity and participation; of adult through dimensions of involvement, support and respect; and community through dimensions of integration, inclusion and partnership. The research had four phases. Phase one - „Article goes public"- consisted of descriptive analyses of the text in focus groups, including text communicability, identification of key messages, possible additions, questions to authors. Phase two - "Article in the kindergarten" -included interpretative analysis of the text in the context of practice. Phase three – „Article in preschool classroom"- included reflection *in the* practice and *about* the practice. The practitioners have chosen some article postulate challenging for them as a starting point for inquiry, made narratives about it that were used for dialogue in discussion groups and further enquiries. Phase four - "Article returns home" – as synthesis, included follow-up actions in the practice of researchers. Phase five - „Article at international conference"- starts with this abstract.

Key words: action research, interpretative analyses, teacher inquiry, scholarly article, relationships

Theoretical introduction

In the field of education, a theory–practice dichotomy is still dominant. From the perspective of theory, as rational, logic, well founded

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body of knowledge, practice is seen as disorganized and deficient regarding the scientific knowledge, and needed to be organized by theory. According to this approach, the best theories should be applied in practice and improve it (Taguchi, 2010). On another hand, from practitioners view, practice is seen as a kind of truth about itself, unwritten experience and implicit knowledge owned by each practitioner (Durrant, 2006; Polanyi, in Taguchi, 2010).

Contrary to this dichotomy, education theory and practice can be seen as an interaction in which the conception and its materialization intertwine, contribute to and build on each other. It is impossible to draw a border between them (Campbell,2007). They are, at the same time, materialized cultural artefacts and agents of the continuous course of the new insights, reconceptualization and discourses (Taguchi, 2010).

Following this approach, we aimed to strengthen the social life of an article and to overcome theory – practice dichotomy. The article in focus deals with issue of the relationships as a foundation and scaffoldfor entire child development and learning. The relationships were seen as contextual systems – with adults, peers, physical environment and community; and also dyad system implying coordinated and emotional communication, reflexive dialogue, renewalof communication, positive stress and development of coherent narratives. The quality of relationships has been looked at from a child perspective through the dimensions of safety, continuity and participation; from adult perspective through the dimensions of involvement, support as empowerment, andrespect; from the perspective of community through the dimensions of integration, inclusion and partnership (PavlovićBreneselović, 2012).

Method

One yearlong action research involved two pedagogues and ten preschool teachers from two kindergartens and two researchers. Researchers and practitioners were developing collaboratively a process of exploring and reconsidering the meaning of the article in the context of practice and practice in the context of the article. This process has undergone several phases and each of them was initiated by the change of the research focus.

The change of focus was a result of the reflection in and about the process in a previous phase. Depending on a focus, the phases have been carried out through the discussion in focus groups and teacher inquiry which included application of descriptive and interpretative analyses of the text and narratives.

Research process

The first phase: 'Article goes public'

This phase focused on the descriptive analyses of the text which included text communicability, identification of key messages, possible restructuring and additions. The work in focus group had four steps: individual reading with inserting, individual notes, exchange and making a poster in small groups and a whole group discussion.

The analysis results were: 1) information whether the text is understandable and a message clear, topic covered and terminology adequate; 2) guidelines for restructuring and possible expansions: for example, using certain parts of text as reminders; questions to think about; more detailed elaboration of certain examples; including examples from the kindergarten practice; 3) developing the space of shared meaning between researchers and practitioners.

The second phase: 'Article in the kindergarten'

The second phase included interpretative analysis of the text with a focus on the context of practice (valuation of the system support, existing problems and support mechanisms to the postulates of the article and particularly, making relations with the teacher's own practice). Focus group discussions were held in each kindergarten.

Teachers' interpretations of the text primarily considered ethical and political dimensions of the practice. Examples: assessment of the discrepancy between the existing preschool education practice and the text assertions; organizational discrepancy (daily schedule, space arrangements,

oversized groups); critical reflection on the power distribution (supervision system, health and safety requirements); teachers' implicit theories of education.

On another hand, personal dimension of their interpretations of the text included:

o recognition of the text as the theoretical ground (For me, this text is a foundation of the educational work with children; it helped me to understand better which curriculum contents and topics are the most appropriate);
o articulation of the knowledge about (I knew it already but did not formulate it like this for myself; I have realized the significance of the quality relationships and their importance for the entire development);
o confirmation of the experience (I have confirmed my insights and realizations; not a single thing in this text contradicts my experience);
o connection with own beliefs (In my practice of working with children, the relationships have always been in the first place).

The result of this phase was insight that practitioners, on the personal level, interpret the text unidirectional, as justification of their starting points for the practice and as knowledge about. There is no bidirectional interpretation through problematizing of their actions in concrete situations as the basis for building the knowledge for action, profound reconsideration and change of practice.

The third phase: 'Article in preschool classroom'

The intervention of the researchers as a 'critical friend' has shifted the focus on the personal actions in concrete situations in the practice. Researchers provided guidelines for the bidirectional interpretation of the text as the basis for teacher inquiry. Teachers conducted their researches and analysed research narratives in the discussion groups what has, in turn, started a new research cycle.

The practitioners' researches have shown that:

The drive for research is not a very postulate in the article but the link between the postulate with already incited personal dilemmas in concrete practice. Teachers have chosen different article postulates as the reason for the research (e.g. the nature of the teachers' power in the relationships with children; participation in a peer group; teacher's support to the development of child self-control).

Teachers have become more critical toward their own practice (I am getting aware of my mistakes and start to learn from them"; I am satisfied with a progress, but this is not enough)

The meaning of the text becomes more profound through solving dilemmas in own practice

One research provokes further researches and contributes to an attitude toward changes as an on-going process (New dilemmas are opening for me; In future, I would like to learn from children...)

The practitioners need support to develop their role as researchers.

The fourth phase: 'Article returns home'

In this phase of synthesis, the focus was on the practice of the researchers as authors of the article. Based on the reflections on the all previous phases, our activities were oriented toward:

Further academic production, i.e. writing an article on the meaning of a child well-being in a preschool education program. This article further elaborates the issues of relationships and deconstruction of teachers' implicit assumptions about curriculum that were identified in the research.

Starting cooperation with Preschool Teachers Association to open the issue of the teacher research as an identified area in which teachers need support. The first step was a research on preschool teachers' enquiry that has been conducted in cooperation with the Association.

On the education policy level, engagement by the Ministry of Education in a 'role of opponents' in the process of development of National Strategy of Education in Serbia. Shift of the dominant orientation from economic approach to the approach based on child rights and well-being, and a shift of the concept of quality assurance based on the standardization of the child development and achievements, to the concept of quality development based on development of relationships between all actors – was the outcome of our critical analysis of the Strategy Draft Proposal.

On another hand, lack of opportunities to strengthen the social life of the article (e.g. to institutionalize collaboration with practitioners; to revise article through reformulations and upgrading and republish it; compile the good practice examples, develop a manual…) due to existing rules in educational and scientific practice, gave us a platform for a critical view on the policy of the social science development and the system of evaluation of the research and academic work. The analysis shows that those policies do not recognize the complexity and specific nature of the education and do not support the developmental researches in education. On the contrary, they are modelling the academic and research work as an isolated, cabinet activity oriented toward the production of articles destined to the 'dusty' shelves with academic journals.

Conclusion

Guided by the thesis „The point [of research in social sciences] is not to interpret nor change the world, but to live in it" (Chaiklin, 1996: 398), we have endeavoured to develop a social life of our article and overcome the theory – practice dichotomy. The entrenchment of this dichotomy permeates the all areas of educational practice –a school system we passed through, education policy, structure and culture of the education system and prevailing scientific and educational canons. Omnipresent division in which the link is seen in truths and solutions provided by the theory to be applied in the practice, neglects the complex nature of the human systems of action such as education. To understand the core of the educational activity as a praxis – reflective relationship between the theory and the action, requires the reconceptualization of pedagogy as theory of education, of the initial

education of practitioners, the role of researchers and the systemic interlinking between research and practice in education.

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Studies in productive teaching-learning interactions

THE ROLE OF DIALOGUE AND POLYLOGUE DURING AN INQUIRY PROCESS IN PRIMARY EDUCATION[20]

Marjolein Dobber

Inquiry is commonly applied in all types of education. In inquiry, dialogue between persons present in the classroom and polylogue with knowledgeable others outside the classroom (e.g., via books) are vital. In the context of Developmental Education, inquiry takes on three forms: consulting sources, inquiry of practices and inquiry as experimental research. This study aims to find out what role dialogue and polylogue play in these forms of inquiry, and how dialogue and polylogue can be promoted by a teacher. The inquiry processes in a classroom with children aged 4-6 were studied.

This class was working on the theme 'the garden', which included activities like gardening, drying flowers, and setting up a flower shop. This classroom was observed and the teacher was interviewed to give insight into the way inquiry was part of the activities of the class. The three forms of inquiry were all visible in the activities that children and the teacher undertook. In consulting sources, the teacher played an important role in stimulating polylogue by means of providing and reading in books. Inquiry of practices was seen in the flower shop, when children were imitating the activities of real florists. Here, dialogue was central, via which children together instigated a meaningful role-play. Inquiry as experimental research was visible for example in trying out different ways to dry flowers. This required a combination of dialogue to determine together how the experiment can best be conducted and polylogue to involve the ideas of not present others. Crucial in each of these forms of inquiry is the central role of the teacher in providing a rich learning environment in which dialogue and polylogue can meaningfully take place.

Keywords: Inquiry, primary education, dialogue, polylogue, role of the teacher, Developmental Education

Theoretical introduction

Inquiry is more and more common within all levels of education. In this paper, a study into inquiry practices in a classroom in a school for Developmental Education in the Netherlands is presented. This type of education is grounded in the ideas of Vygotsky, and aims to provide socio-

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cultural activities in which all pupils actively engage. Important is that activities are meaningful and stimulate interaction between the learning community in the classroom, which includes both pupils and teacher (van Oers, 2012). The role of the teacher in Developmental Education is that of a representative of the culture, engaging in co-construction with the pupils (De Haan, 2011).

Within the Developmental Education curriculum, inquiry is mostly prescribed for pupils aged 9-12 (e.g., van Oers, 2012), but in practice children of younger ages are also engaging in types of inquiry in the classroom. In Developmental Education, as well as some other educational concepts, inquiry is mostly initiated by questions that the pupils have themselves (see also Wells, 2000). Pupils can engage in different sorts of inquiry, namely consulting sources (e.g., reading books or searching on the internet), inquiry of practices and inquiry as experimental research. Including these three sorts of inquiry means that a broader definition is applied than is usual in literature, in which mostly only scientific experiments are seen as inquiry.

Interaction is an important aspect when engaging in inquiry (Mercer, Warwick, Kershner, & Kleine Staarman, 2010; Iiskala, Vauras, Lehtinen, & Salonen, 2011). I hypothesize that interaction during inquiry involves both a dialogue with others that are present within the classroom and a polylogue, which means that the discourse includes knowledgeable (authoritative) others from the wider community in the form of (mostly written) texts. The current study focuses on the importance of dialogue within the classroom, and polylogue with sources outside of the classroom (Van Oers & Dobber, in preparation) for inquiry. I theorize that there might be differences between different sorts of inquiry in the application of dialogue and polylogue as well as the role of the teacher.

The main research question is: *How does a teacher promote meaningful dialogue and polylogue between young pupils while engaging in different types of inquiry in the classroom?* I want to find out what actions a teacher who works in developmental education undertakes to promote dialogue and polylogue, and whether these differ between the three sorts of inquiry.

Method

   This is a small-scale exploratory study, in which the activities and discourse in a classroom were observed and are presented as a paradigm case, giving insight into how inquiry can be part of classrooms in primary education. A school that is quite progressive in implementing Developmental Education agreed to be part of this study. The director of the school asked a teacher which she thought of as being a senior in implementing Developmental Education on a classroom level. This teacher agreed with being observed one morning by a researcher.

   During these observation and afterwards, notes and photographs were made focusing both on the inquiry process that is going on in the classroom, as well as on the actions which the teacher undertakes in order to promote the use of dialogue and polylogue while engaging in different forms of inquiry. These data were supplemented with an interview with the teacher, on how the process of inquiry is emphasized in her classroom. Moments that represented one or more sorts of inquiry were analyzed and three moments were chosen to include in this paper, because they are representing the different types of inquiry which took place within this classroom.

   The investigated classroom includes 29 children aged 4-6. They have been engaged in the theme 'the garden' for about four weeks. This school has recently moved to a new location and the pupils started up their own garden. This activity led to many more activities, including bringing flowers into the classroom, determining the names of the flowers, drying flowers in presses and to set up a flower shop in the classroom. The children came up with a list of questions that all have something to do with the garden, like: 'Why are there so many different types of flowers?'; 'Why are the stalks and leafs green?' and 'Why does a poppy immediately die when you pick it?'

Results

   First, I will discuss the way in which material and people from outside the classroom can be included in the inquiry process. One of the pupils had a grandmother who had made a book with dried flowers 40 years ago, and who knew much about plants. A few weeks earlier, children had

tried out different ways of drying flowers (e.g., putting them between the pages of a thick book, putting them between presses). The grandma was invited into the classroom to help a group of older children to determine the names of the dried flowers. Two pupils had already made their own book with some dried flowers, which was compared with the grandma's book. The pupils were highly engaged in this activity, wanting to know about the flowers that they found around the school. The book that the grandma took into the classroom, as well as the grandma herself, supplied the pupils with information that could be used to complement the information in their own book.

Second, an interesting inquiry process took place in the classroom by building an ant farm. A large bowl filled with sand was positioned on the table in the middle of the classroom, with a plate leaning on it at one side. Ants were carefully added to the bowl. As children knew ants like to eat sugar, the ants were provided with jam. Children used the plate to create a dark place on one side of the bowl, to allow the ants to make paths around that side of the bowl. When talking about ants with all children, the teacher took a large book about insects and spiders, showed the pictures of several insects to the children and read about characteristics of insects (e.g., number of legs). Later on, when children were playing outside, two girls came up to the teacher with an ant they found. The teacher asked them to observe the ant and count the number of legs. After that, she stimulated the girls to put the ant back on the ground. When eating and drinking outside, a spider walked over one of the boys. The teacher took this spider along into the classroom and put it into a cup. Later on, she once again looked into the book and read about spiders. All children were given the cup so that they could look at the spider closely.

The last example concerns the way cultural practices are made subject of inquiry in the classroom. In this case, the children have established a flower shop in the classroom. In this shop, plastic flowers and plants are available, and also vases that the children painted themselves. There is a checkout machine with fake money, a sign that tells whether the shop is open or closed, labels with prizes of the products, packing material etc. The children themselves made much of this material. Children who are shop-personnel during play-work time are behind the counter, while children who

are playing in the house corner visit to buy things. This is a good example of how inquiry of cultural practices leads to improving the imitated practices within the classroom.

Conclusion and discussion

This exploratory study started with the question: *How does a teacher promote meaningful dialogue and polylogue between young pupils while engaging in different types of inquiry in the classroom?* The paradigm cases display different types of inquiry: consulting sources (the book of the grandma with dried flowers as well as the book the children made themselves; the book on insects and spiders), inquiry of practices (working like real florists in the flower shop), and experimental research (trying out different ways of drying flowers). When consulting resources, polylogue is crucial, with dialogue as a way to enrich the information found in resources and to make it available to others. When pupils are involved in the inquiry of socio-cultural practices, they are mostly involved in dialogue with each other, imitating the cultural activity by including the knowledge that several children have about that activity. In experimental research, both polylogue and dialogue are necessary for the validation of the acquired understandings, by including knowledge from outside the classroom and determining how to apply that within their own experiment, as well as talking about the outcomes of the experiment.

In conclusion, both dialogue, between young children themselves and between children and the teacher, as well as polylogue with others outside the classroom via books and other material, are essential within inquiry learning. In each of the types of inquiry the teacher plays an important role, by taking on the roles that children cannot yet perform themselves (e.g., reading in the book), by providing rich material in the classroom (e.g., many plastic flowers and plants in the flower shop) and by inviting more knowledgeable others into the classroom. Thus, the teacher provides a very rich learning environment for the children in which dialogue and polylogue are meaningfully taking place. Further studies are planned to investigate how the teacher's participation in young children's inquiries promotes deeper understanding in these pupils.

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SUPPORTIVE AND NON-SUPPORTIVE INSTRUCTIONAL DISCOURSE: MOTIVATIONAL AND AFFECTIVE ASPECTS OF LEARNING FROM INSTRUCTION

Cécile Ledergerber[21]
Christine Pauli
Kurt Reusser

The purpose of the study to be presented is to explore the impact of teachers' supportive and non-supportive instructional discourse on motivational and affective aspects of learning from classroom instruction in mathematics lessons. On the whole, our analyses are in line with the work of Turner, Meyer, Andermann, Midgley, Gheen, and Kang (2002). In addition, our aim is to find out to what extent their findings can be applied to the context of mathematics instruction in two European countries.

Keywords: classroom talk, mathematics instruction, teacher assistance, video-based analyses

Theoretical Framework

On the basis of socio-constructivist and socio-cultural theories of teaching and learning, educational research has analyzed instructional discourse mainly with regard to its potential in terms of cognitive activation and opportunities for co-constructive generation of knowledge. However, it is increasingly acknowledged that the quality of the instructional context, and in particular of instructional discourse is crucial to motivational and affective aspects of learning (Rakoczy, Klieme, Bürgermeister & Harks, 2008; Turner, Midgley, Meyer & Patrick, 2003).

Based on the assumption that students are active, self-determined, and self-effective participants in learning processes, motivation for learning is regarded as a decisive starting point for the enhancement of academic performance at school. Motivational and emotional experiences in the classroom are a driving force behind students' behavior, efforts, and

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achievements (Turner et al., 2002; Buff, Reusser, Rakoczy & Pauli, 2011). Furthermore, features of instruction are considered to be central contextual factors that have an impact on students' affective experiences and motivation for learning (Pekrun et al., 2002a, 2002b; Buff et al., 2011).

Self-determination theory (Deci & Ryan, 1985, 2000a, 2000b) and achievement goal theory (Dweck, 1986; Ames & Archer, 1988; Urdan & Schoenfeld, 2006) are prominent approaches in research on motivation in the classroom. According to self-determination theory, people strive to experience themselves as competent, to act autonomously, and at the same time to be integrated into their social context. The fulfillment of these needs is accompanied by positive emotional experiences.

Social and environmental factors can facilitate or undermine motivation and involvement in learning. Therefore, aspects of the instructional setting such as recognition, respect, sensitivity, authentic and attentive behavior, mutual acceptance, and a friendly atmosphere have been mentioned as decisive factors with respect to motivational and emotional effects of learning (Deci & Ryan, 1985; Ryan & Deci, 2002).

Relevant features of instruction which affect students' motivational and emotional experience have been described, for instance, within the framework of the TARGET-Model (Tasks, Authority, Recognition, Grouping, Evaluation, Time). In sum, they reveal the importance of the quality of supporting classroom discourse (cf. Patrick et al., 2001).

Instructional discourse is affected by a whole range of contextual effects, viz. the teacher, students, contents, as well as the arrangement of learning activities. Therefore a comprehensive analysis is quite demanding. Turner, Meyer, and Schweinle (2003) have developed a broad concept of motivational and instructional aspects of classroom discourse in the context of goal orientation and in relation to motivational and affective aspects of learning. Specifically, they have worked out a concept of motivationally and instructionally supportive discourse. Supportive instructional discourse is directed at the cognitive functions of teaching and enables negotiation of meaning, building of understanding and transfer of responsibility for learning to students. Supportive motivational discourse would include such discourse practices as recruiting students' interest, maintaining students' persistence,

minimizing frustration and risk, or enhancing students' confidence (Turner et al., 2002).

Against this theoretical background, our current project aimes at analyzing teachers' use of instructional discourse and its impact on motivational and emotional aspects. As a general premise, we assume that supportive instructional teacher discourse has positive effects on motivational and emotional aspects of student learning.

In more specific terms, our study was designed to examine whether students in classrooms that are characterized by a high proportion of supportive teacher discourse

- o show an increased perception of the support of autonomy and self-determination.
- o feel an increase in social relatedness
- o maintain a better relationship with their teacher.

Method

Sample and design

The following analyses are part of a broader, video-based study on mathematics instruction in German and Swiss classrooms[22]. The sample consisted of 39 classes and their teachers (765 students in total, 8th and 9th grade) from two secondary school tracks[23] in Germany and Switzerland. All participating teachers were asked to teach a three-lesson introduction on the same mathematical concept (the Pythagorean Theorem).

Video-based analyses of classroom interaction, and further data

We analyzed a subsample of about 50 minutes of classroom discourse occurring in the three video-taped lessons of each of the 39 teachers ($M = 51.7$ min. per teacher; $SD = 4$ min.). The subsample included whole-class discourse (44.6%) as well as teacher-student interactions during seatwork phases (55.4%). Two trained coders coded all the videos with the help of a coding manual; inter-rater reliability amounted to > .83 (Cronbach's Alpha).

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[22] An overview of the whole study is provided by Klieme, Pauli, and Reusser (2009).
[23] Highest track: Gymnasium; middle track: "Realschule"/"Sekundarschule"

A coding system developed by Turner et al. (2002) was adapted to our data and research goals, and was applied to investigate supportive and non-supportive classroom discourse. It consisted of a priori categories, which allowed a classification of the teachers' utterances as both instructional or motivational discourse, and two respective subcategories, labeled "supportive" and "non-supportive".

Our analysis includes further data that were collected in the context of the broader study. These include students' reports of perceived autonomy support, support of self-determination, perceived social relatedness, their relationship with the teacher, and interest in mathematics[24].

Autonomy support manifests itself, in encouraging individual work or providing opportunities to intensely deal with interesting problems. Support of self-determination means a friendly atmosphere; the students feel taken seriously, and they get the feeling that the teacher thinks they are capable of what they are doing. Perceived social relatedness manifests itself in feelings of belonging, understanding and helping each other, and the relationship to the teacher means caring, being interested in personal problems and listening to the students.

Results

The 39 teachers displayed a broad range of discourse patterns. The extent of instructionally and/or motivationally supportive or non-supportive discourse varies quite remarkably. The proportion of supportive discourse stretched from a maximum of 86% to a minimum of 25% ($M = 57.5\%$; $SD = 20.6$), while the figure of non-supportive discourse stretched from a maximum of 50% to zero ($M = 12.5\%$; $SD = 16.5$).

As the analyses presented below will show, these differences obviously are associated with motivational and emotional aspects of learning.

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[24] For a detailed description of the student questionnaire see Rakoczy et al. (2006).
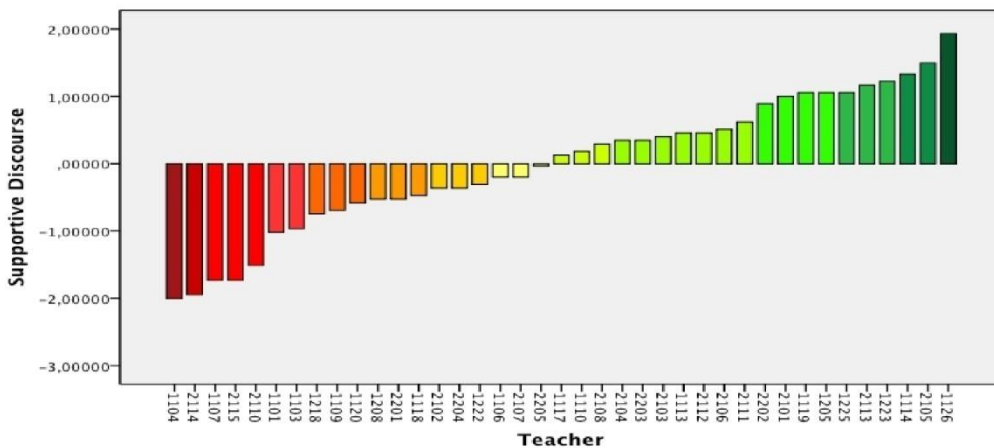
Figure 1: Variation of supportive discourse among all teachers (N = 39), z-standardized values

Perception of Autonomy Support and Support of Self-Determination

Table 1: Prediction of perceived autonomy support

Model	1	2	3	4	5
	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
class level					
school type[a]	0.12 (0.09)	0.09 (0.09)	0.11 (0.1)	0.09 (0.1)	0.09 (0.1)
SD	0.12* (0.05)				
NSD		-0.13* (0.06)			
SID			0.08 (0.05)		
NSID				-0.09 (0.07)	
SMD					0.07 (0.05)
Individual level					
sex[b]	-0.06 (0.07)	-0.06 (0.07)	-0.06 (0.07)	-0.06 (0.07)	-0.06 (0.07)
interest	0.37*** (0.04)	0.37*** (0.04)	0.37*** (0.04)	0.37*** (0.04)	0.37*** (0.04)

* $p < .05$; **$p < .01$; ***$p < .001$; b = non-standardized regression coefficients; SE = standard error of b; N = 37 classes with 857 students; [a] 0 = highest track ("Gymnasium"); 1 = middle track ("Sekundarschule"/"Realschule"); [b] 0 = girls, 1= boys SD = supportive classroom discourse (instructional *and* motivational); NSD = non-supportive classroom discourse (instructional *and* motivational); SID = supportive instructional discourse; NSID = non-supportive instructional discourse; SMD = supportive motivational discourse; NSMD (The category of non-supportive motivational discourse (NSMD) does not fulfill the requirements of HLM and is lacking in the analyses.)

Multi-level analyses (Raudenbush et al., 2001) were carried out to predict students' perception of the support of autonomy and self-

determination. Based on the assumption that there are school type (track) specific learning cultures, the models include the school type as a control variable on class level. Furthermore, the models encompass student gender and interest in mathematics as control variables on the individual level. All variables were standardized prior to the analyses. The presented coefficients can be interpreted in the sense of standardized regression coefficients (Buff et al., 2011).

Table 1 presents the results regarding the prediction of perceived autonomy support. The models indicate that neither school type nor sex significantly correlates with perception of autonomy support, when the level of interest is simultaneously included. The type of instructional discourse is a significant predictor of perceived autonomy support. Instructionally supportive discourse and motivationally supportive discourse was not significantly related to perceived autonomy support.

Table 2: Prediction of perceived support of self-determination in the classroom

Model	1	2	3	4	5
	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
class level					
school type[a]	0.07 (0.15)	0.02 (0.14)	0.08 (0.15)	0.03 (0.14)	0.03 (0.14)
SD	0.19** (0.06)				
NSD		-0.18** (0.06)			
SID			0.19** (0.06)		
NSID				-0.17* (0.07)	
SMD					0.05 (0.07)
individual level					
sex[b]	-0.15* (0.08)	-0.15* (0.08)	-0.15* (0.08)	-0.15* (0.08)	-0.15* (0.08)
interest	0.38*** (0.04)	0.38*** (0.04)	0.38*** (0.04)	0.38*** (0.04)	0.38*** (0.04)

$* p < .05$; $**p < .01$; $***p < .001$; b = non-standardized regression coefficients; SE = standard error of b; $N = 37$ classes with 857 students; [a] 0 = highest track ("Gymnasium"); 1 = middle track ("Sekundarschule"/"Realschule"); [b] 0 = girls, 1= boys SD = supportive classroom discourse (instructional *and* motivational); NSD = non-supportive classroom discourse (instructional *and* motivational); SID = supportive instructional discourse; NSID = non-supportive instructional discourse; SMD = supportive motivational discourse;

Table 2 shows student's perception of the support of self-determination also depends on students' interest, and, to a fewer extent,

student's gender, but not on school type. Almost all discourse features have significant effects on perceived support of self-determination.

Social Relatedness and Student-Teacher Relationship

The prediction of perceived social relatedness and relationship with the teacher also revealed significant results, as can be seen in Table 3 and Table 4. The results regarding social relatedness are less clear than those concerning student-teacher relationship. Only the overall non-supportive discourse predicts the extent of social relatedness negatively (see Table 3).

Table 3: Prediction of social relatedness

Model	1	2	3	4	5
	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
class level					
school type[a]	-0.04 (0.70)	-0.05 (0.57)	-0.03 (0.72)	-0.05 (0.61)	-0.05 (0.60)
SD	0.06 (0.29)				
NSD		-0.09*			
SID			0.06 (0.27)		
NSID				-0.07 (0.12)	
SMD					0.01 (0.87)
individual level	-0.33***	-0.32***	-0.32***	-0.32***	-0.33***
interest	0.20***	0.20***	0.20***	0.20***	0.20***

* $p < .05$; ** $p < .01$; *** $p < .001$; *b* = non-standardized regression coefficients; *SE* = standard error of *b; N* = 37 classes with 857 students; [a]   0 = highest track ("Gymnasium"); 1 = middle track ("Sekundarschule"/"Realschule"); [b]   0 = girls, 1= boys SD = supportive classroom discourse (instructional *and* motivational); NSD = non-supportive classroom discourse (instructional *and* motivational); SID = supportive instructional discourse; NSID = non-supportive instructional discourse; SMD = supportive motivational discourse;

On the other hand, supportive and non-supportive classroom discourse (see Table 4), and to a lower extent also supportive and non-supportive instructional discourse predict student's perception of their relationship to the teacher, either positively or negatively in the expected direction.

Table 4: Prediction of of student-teacher relationship

Model	1	2	3	4	5
	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
class level					
school type[a]	-0.22 (0.17)	0.17 (0.17)	0.23 (0.17)	0.18 (0.17)	0.18 (0.18)
SD	0.20* (0.08)				
NSD		-0.18*(0.08)			
SID			0.22**(0.07)		
NSID				-0.17*(0.08)	
SMD					0.05 (0.07)
individual level					
sex[b]	-0.18*(0.07)	-0.18* (0.07)	-0.18* (0.07)	-0.18* (0.07)	-0.18* (0.07)
interest	0.35***	0.35*** (0.04)	0.35*** (0.04)	0.35***	0.35*** (0.04)

$*\ p < .05$; $**p < .01$; $***p < .001$; b = non-standardized regression coefficients; SE = standard error of b; N = 37 classes with 857 students; a   0 = highest track ("Gymnasium"); 1 = middle track ("Sekundarschule"/"Realschule"); b   0 = girls, 1= boys SD = supportive classroom discourse (instructional and motivational); NSD = non-supportive classroom discourse (instructional and motivational); SID = supportive instructional discourse; NSID = non-supportive instructional discourse; SMD = supportive motivational discourse;

Discussion

Our theory-based hypotheses suggesting a correlation between the extent of support in instructional interaction and on student's perception of certain aspects of mathematics instruction that are relevant to learning, was confirmed.

The distinction of a motivational and an instructional category is not consistently supported by the data. It seems reasonable to assume that the two categories overlap from the students' perspective, since there is a weak, but significant, correlation between them (Kendall Tau $b = 0.244$).

Contrary to expectations, the correlation with respect to social relatedness could not be demonstrated very clearly. One possible explanation for this is that this variable encompasses more than learning behavior. It relates also to students' social integration into their class. In contrast, the focus of our analysis is only on teachers' behavior

towards their students and does not include social integration. Moreover, the findings with respect to social relatedness and partly with respect to autonomy support are not very clear because of a rather low ICC (0.06).

A restriction of the study is related to the data collection procedure. Since the student questionnaire was applied prior to the video-taped teaching unit, the data used as dependent variables (student reports) in the above-mentioned analyses were collected prior to the classroom discourse data used as predictors. In spite of that we consider our analyses as viable, because it was ensured that all classes were taught by the participating teachers at least during one year before the questionnaire was applied. Moreover, the extent of support appears to be a relatively stable feature of teaching behavior. This has been confirmed by the correlation between the codings presented in this paper and the coding of a second instructional unit which was held a couple of weeks later.

Our current research interest is grounded in the assumption that supportive instructional discourse can be empirically qualified as well as quantified, and that it facilitates the creation of an instructional setting which is conducive to learning in terms of motivation and emotion. The analyses contribute to the knowledge regarding the role of teachers in productive classroom discourse and, on an empirical basis, indicate ways of how teachers can improve the quality of their classroom discourse with respect to the enhancement of positive affective experiences and the promotion of students' motivation.

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MATHEMATICAL PROVING AS A KIND OF SOCIAL INTERACTION

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Within the framework of a contrastive case study, reasoning practices and participation structures in mathematical proving sequences were analyzed in two classes, which remarkably differed in the respective development of their mathematics achievement. Our findings indicate that high quality classroom discourse should be grounded in substantial academic content, and requires active orchestration by the teacher.

Keywords: mathematics instruction – mathematical proving – reasoning – classroom discourse

Theoretical introduction

Conclusive mathematical proving and cogent reasoning are intellectual activities that are realized in discourse and thus in interacting with others. The validity of a proof or argumentation is ensured by a scientific community which rejects or accepts it after thorough examination (cf. Heintz, 2000). Hence, proving and reasoning constitute a specific subject based kind of social interaction.

In the context of educational standards (e.g. Blum, 2006; NCTM, 2000), proving has recently gained new significance. As a demanding classroom activity, it requires instructional support in various respects: both on the level of academic content and on the level of classroom discourse and student participation. Support on the level of academic content can, for instance, be realized by the deliberate choice of a certain kind of proof and the way of representing thought processes. Accordingly, proofs can be categorized with respect to how they represent cognitive processes (cf. Aebli, 1981). Wittman and Müller (1988) mention experimental proofs, operative

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proofs, and formal-deductive proofs. Experimental proofs are grounded in a concrete example, and try to discover logical connections by way of systematic trial and error. The next stage involves verifying whether the found connection can be applied to other examples as well. There is, however, no certainty that it holds for every instance.

Operative proofs work on the basis of illustrative means, and aim at revealing or visualizing logical connections, or at demonstrating them in the sense of a construction proof. As against this procedure, formal-deductive proofs are strictly logical and phrase mathematical connections in algebraic, formal language. In addition, the three types of proof do not only differ in terms of their degree of abstraction but they also involve differences in their potential for substantial mathematical discourse. While procedures which build on examples and are thus not fully abstract can be assumed to increase student participation, formal-deductive procedures with a higher degree of abstraction are more likely to impede it.

However, participation in discourse alone says only very little about its quality. As suggested in the concept of „Accountable Talk" (Greeno, 2006), three dimensions of accountability, which influence their quality, are involved in classroom discourse practices: accountability to knowledge (i.e. academic content), accountability to accepted standards of reasoning (i.e. rigor of thinking, coherence), and accountability to the learning community.

At this point, the question arises as to how mathematics instruction can succeed in realizing demanding, productive, and coherent classroom discourse in proving sequences. It is this question, our paper is going to pursue. Within the framework of a qualitative explorative case study, reasoning practices and student participation were contrasted in two secondary level I classes which remarkably differed in the development of their academic achievement. In what follows, our paper is going to deal with the question below:

How are reasoning processes and participation structures orchestrated in two classes with extremely differing respective development of academic achievement?

Method

Our study is based on the data set of the bi-national project "Instructional Quality, Learning Behaviour and Mathematical Understanding" (Klieme, Pauli & Reusser, 2009) – also known as the "Pythagoras Study" – in the course of which a standardized, purely mathematical proving and reasoning problem was implemented in 32 German and Swiss secondary level I classes.

The aim of a previous video study in this context was to gain a comprehensive insight into everyday proving in mathematics classrooms. In accordance with the supply-use-model of instruction (Pauli & Reusser, 2010), the content-related support lent by the teachers and its realization in classroom discourse were correlated with the students' assessments and their academic achievement as well as with the teachers' beliefs. In a further step, the procedures applied in treating a purely mathematical proof of two classes with highly divergent achievement development were contrasted by means of a comparative case study (Brunner, in prep.). In doing so, we went on the assumption that the problem was worked on in a way which is typical of the two classes respectively. Our paper focuses on this explorative case study.

In the first place, those two classes were selected from the data set which showed an extremely diverging development of their respective mathematics achievement within one school year's time: whereas the increase in achievement proved to be the highest in Class A, Class B's increase was the lowest, if several personal characteristics were controlled (cf. Brunner, in prep.). As reasoning processes can be analyzed in different ways, we decided to work with a procedure based on the method of Krummheuer and Fetzer (2005) which had been adapted for our purpose. First of all, we interpretively analyzed how the topic evolved while the two classes were working on the same purely mathematical problem. Afterwards, we analysed their rationalization practices by making use of Toulmin's (1996) schema, and described the respective participation structure on the basis of discourse-analytical methods (cf. e.g. Henne & Rehbock, 2001). A concluding analysis of the quality of discourse was guided by the above mentioned concept of "Accountable Talk", and was aimed at describing the three dimensions of accountability from a comparative point of view.

Results

Topic development proved to be very different in the two classes under consideration. Class A takes up an argumentative idea proposed by a student, and develops it straight into an operative proof. Thereupon, a formal-deductive proof is worked out in classroom discourse.

The development of the topic is well-structured and orderly, while progressing from easy to difficult. The participants speak after each other and have time to finish the presentation of their thoughts. Apart from that, each idea is recognized with regard to its academic content.

In contrast to Class A, Class B evolves the topic in quite chaotic ways. The students indiscriminately shout contradicting ideas, which are not elaborated, all at once. The thread of the actual topic development is hard to reconstruct as the individuals involved interrupt one another and often speak in an elliptical way. Moreover, there are some students who insist on their original idea and keep repeating it without success. Eventually, the teacher takes over and – with only marginal student participation – works out an operative proof. His explanation, however, is hardly comprehensible because it lacks illustrative force and is only verbal.

To sum up, the main differences can be traced in the type of proof and thus in the degree of abstraction on the one hand, and in the structuring of topic development on the other hand. Furthermore, there are also clear differences in the practice of rationalization: in Class A, arguments tend to be complete as well as correct, and faulty or incomplete arguments are worked on so as to improve them, whereas several faulty and incomplete approaches go unnoticed in Class B. Also, there is almost no cognitively stimulating and productive discussion of contradictions.

In Class A, the dialogue remains within the control of the teacher. The I-R-E pattern dominates (cf. Mehan, 1979). As against this, all the students in Class B have equal access to the floor, and the discussion passes mostly without orchestration by the teacher.

Interpretation

In Class A, accountability to knowledge and accountability to the learning community seem to be present. It is a feature of the former that the individuals involved can formulate their arguments completely most of the time, and that faulty propositions are worked on, which is also an expression of coherence and rigor of thinking. This is not the case in Class B where ideas cannot be finished and properly formulated. Moreover, the teacher does not demand rigor of thinking. Accountability to knowledge or to academic content is only manifest in certain phases of the discussion, since nobody responds to incorrect argumentations or tries to elaborate faulty ideas.

As far as accountability to the learning community is concerned, Class A stands out as well: all the individuals involved stick to the rules of conversational conduct. In Class B, this dimension of accountability needs to be considered quite ambivalent. Neither do the students keep to the conversational rules nor do they listen to each other. On the other hand, however, those students who gain attention and make their voice heard get the opportunity to explain their ideas in great detail.

Discussion

The concept of "Accountable Talk" can – with due interpretive circumspection – offer a potential explanation for the vast difference in the two classes' development of their respective academic achievement. Whereas in Class A accountability to knowledge, accountability to standards of reasoning as well as accountability to the learning community shape the discussion remarkably, they are almost non-existent in Class B. The first two dimensions of accountability are central concepts which describe the quality of instruction and are considered as being conducive to learning. However, although accountability to the learning community seems to be important primarily to social inclusion and interest at first glance, a second, deeper glance reveals its connection with academic content. To act accountable to the learning community means in the case of discipline-specific instruction and also with respect to the concrete example of mathematical proving that all participants get a chance to present their ideas and arguments in full

length, and that other members of the learning community respond to or challenge each other's arguments and ask for clarification if an expressed idea is incomplete or faulty.

Conclusion

In sum, the results of our case analysis suggest that the extent of student participation alone is not indicative of the quality of the mathematical discourse. Content-related coherence and rigor of thinking require careful planning of topic development and rationalization practices as well as a teacher who plays an active part in classroom discussions. Especially in the context of proving it is important to establish a mathematical discourse culture and to build up a technical community. This requires the teacher initially to take control of the situation by way of a skilful expert moderation.

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WHY SHOULD AND HOW COULD TEACHER SCAFFOLD STUDENTS´ IMPASSES?

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In current approaches of mathematics instruction, individual learning support plays an increasingly important role owing to the growing importance of independent, demanding problem-solving activities and increasing heterogeneity of students' learning prerequisites. Scaffolding represents an attractive model of productive support. Despite comprehensive research, however, clarification is still required regarding the question of what, precisely, constitutes effective scaffolding particularly in dealing with impasses in the context of school teaching and learning processes. The current investigation pursues this question using video analyses of 26 tutoring sessions in which teachers each supported one student in solving an algebraic word problem. Based on students' success in independently solving a transfer task upon completion of the tutoring session, a distinction was made between successful and unsuccessful tutoring sessions. The analyses are based on a qualitatively oriented multi-methods approach. Starting from a task analysis, the analyses of teacher-student interaction and of the problem-solving process focused on the match between teacher support and student behavior and on the occurrence and tackling of impasses, taking into account the progression of the problem-solving process. The results indicate the importance of picking up on and tackling all impasses. Compared to unsuccessful tutoring sessions, the successful sessions were distinguished, moreover, by an optimal match between the type of teacher's support and the student's needs, and by controlled fading attuned to the student behavior and the situation once the impasse was resolved.

Keywords: impasses, problem solving, scaffolding, tutoring

Theoretical introduction

In current approaches of mathematics instruction individual learning support plays an increasingly important role owing to the growing

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importance of independent demanding problem-solving activities and to the increasing heterogeneity of students' learning prerequisites. On the basis of a social-constructivist and learning theory increased opportunities for demanding learning activities - such as independent problem-solving - requiring adaptive support by the teacher should be created (Hmelo-Silver, Duncan, & Chinn, 2007).However, supporting students´ independent problem-solving activities is a demanding task for the teacher. Research on tutoring examined a diversity of actions of expert human tutors considering the motivational, affective, socio-emotional side of effective tutorials (Azevedo, Cromley, Moos, Greene, & Winters, 2011; Chi, Siler, Jeong, Yamauchi, & Hausmann, 2001; Graesser, Person, & Magliano, 1995; Lepper, Woolverton, Mumme, & Gurtner, 1993). Recent research has shown the importance of reaching impasses to gain understanding (VanLehn, Siler, Murray, Yamauchi, & Baggett, 2003) and has underscored the importance of productive failure in problem solving and learning (Kapur, 2008, 2010).In this context there is need for further investigation on whether or not the student should be supported after reaching an impasse and if so how this support should be developed and continued. This is one of the most challenging decisions a tutor has to make.

Scaffolding represents an attractive model of productive support that takes this balance question into account. The concept of scaffolding (Wood, Bruner, & Ross, 1976) represents support which is temporary, adaptive and oriented towards building competence. Although no uniform definition of scaffolding is available to date, the more recent literature points to three core features of scaffolding: contingency, fading and transfer of responsibility (van de Pol, Volman, & Beishuizen, 2010). Examinations into the relationship between tutoring and learning have, moreover, emphasized the importance of dealing with impasses for learning success. Despite the broad consensus that scaffolding represents an effective form of learning support, there continues to be a need for empirical investigations showing what precisely distinguishes productive scaffolding processes in the context of school learning and in particular in dealing with impasses. The current study makes a contribution in this regard.

In order to measure scaffolding instruments were developed for this study. Measuring scaffolding is mentioned for instance by van de Pol et al.

(2010) as a main challenge in research on scaffolding. Our analyses take into consideration the task and the problem-solving process, capture the impasses and their handling and describe teachers' and students' behavior as well as the match between them. In particular this method gives the opportunity to analyze both the support after the student has reached an impasse and the subsequent dealing with the current needs of the student. Indication for adaptive support could be detected while contrasting successful with non-successful cases.

One goal of this study was to examine how impasses were treated when a problem that would typically arise in mathematics instruction was solved. Tutorial dialogues were analyzed in several steps with respect to the following question: Do successful tutorial dialogues differ from unsuccessful tutorial dialogues (1) with regard to the occurrence and treatment of impasses and (2) with regard to the responsiveness of the support in treating the impasses?

Method

The data base consists of 26 video-taped tutoring dialogues of 26 different teachers from Germany and Switzerland, each with one student ($8^{th}/9^{th}$ school year) which had been obtained in the framework of an earlier video study (Klieme, Pauli, & Reusser, 2009). The tasked worked on (algebraic word problem) was set by the research team so that all students solved the same task. Following the tutorial session, the students independently solved a similar task. Based on the success of the solution in this transfer task, the tutorial dialogues were divided into "successful" (n=11) and "unsuccessful" (n=15).

The analysis was based on a qualitatively oriented multiple methods approach and comprised four steps:

(1) Based on a task analysis, the problem solving process was segmented with regard to the key steps. (2) For each segment of the teacher-student interaction four types of impasses (including errors) were identified (e.g. misinterpretation of the text, false numerical linking). (3) A rating instrument was developed which assessed for each segment of the teacher-student

interaction, (a) based on the work of VanLehn et al. (2003) the extent of the impasse with regard to the problem-solving process (b) the degree of supportive behavior of the tutor (e.g. "no support" to "complete explanation") and (c) the extent of the student's contribution. Moreover, the match between (b) and (c) was taken into consideration. (4) Analyses (1) to (3) formed the starting point for creating progression graphs and narrative descriptions of different types of joint problem-solving based on a type-building procedure.

Results

Our results show that the most frequent type of impasse in this analysis was the one related to a misinterpretation of the problem text. Furthermore results show that in successful tutoring sessions all impasses had been resolved. This was not the case for the unsuccessful sessions.

Taking the whole problem-solving process into account with regard to the scaffolding activities of the tutor it is apparent that a controlled fading (finely tuned to the student's current level of understanding) after impasses was more frequently observed during successful tutorial sessions than during unsuccessful sessions. In unsuccessful tutorial sessions support and positive reinforcement by the tutor was rarely observed once the impasse had been resolved.

Conclusion

Our results underline the role of responsiveness of teacher's support and of the productive handling of impasses when supporting problem-solving activities. Support that is optimally attuned to the progression of students' understanding in the course of problem-solving proved to be particularly important for learning success with regard to resolving impasses. This appears to be consistent with three key characteristics of scaffolding (contingency, fading and transfer of responsibility) which were suggested by van de Pol et al. (2010).

The current investigation contributes to clarifying the question of how scaffolding (particularly contingency and fading after reaching an impasse) can be effectively afforded. This is also important for teacher education and training as empirical investigations into individual learning support in instruction show that it is predominantly of only modest quality (Krammer, 2009).

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THE LANGUAGE TEACHER – DETAILED ANALYSIS OF PRACTICE[27]

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Throughout the literature it has been recognized that understanding the lens, through which teachers envision their role in the teaching/learning process is one of crucial factors contributing educational outcomes; however the field does not exhibit a unanimous approach in how to treat either teacher beliefs on teaching, or the practices exhibited. In this paper we focus on detailed analysis of practice of two language teachers for whom we established in previous stages of the study to belong to "traditional" and "modern" type teacher groups. Particular focus has been given on how each constructs the learning space and learning opportunities for their students and the meaning they prescribe to actions undertaken in the classroom.

Keywords: teachers' beliefs, meaning making, learning environment

Understanding the lens, through which teachers portray their role in the teaching/learning process, is recognized as one of crucial factors contributing educational outcomes (Hattie, 2009). Yet the field of inquiry on teachers' classroom practices is not unified. While some authors give emphasis to teachers' knowledge and beliefs, seeing the mind of the teacher as the one "shaping" his/her practice (Munby et al. 2001; Bolhuis & Voeten, 2004; Fives & Buehl 2008); others focus on detailed analysis and interpretation of teachers' practices in the classroom, not including what these practices denote for the teachers themselves (Adelsteinsdottir, 2004).

In a classroom, where we assume learning must surely occur, how teachers arrange conditions of that learning may differ. In every learning situation a mutual understanding, about what is to be learned and how it is to be learned is crucial; putting language that is used in focus of the learning process (Marton et al., 2004); especially in a language class. Critical aspects

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of what is to be learned are thus interpreted, understood and constructed not only having the outcomes of learning in mind, but also through language spoken in class, metaphors and analogies used during the lesson, questions raised and answered; and meaning assigned to each of these aspects.

On some occasions both teachers and the students may be silent in class (e.g. students working on an assignment); yet McHoul (1978) does note teachers speak over 80% of the time during high school lessons, with much of this speech being in a monologue. Arminen (2005) argues that teaching via "lecturing" is a dominant didactic activity in the classroom. However despite "quantity" of teacher talk may vary; how that talk is shaped and in what vocabulary remains somewhat unchanged for every teacher.

Classroom research also reveals, how school is characterized by patterns of interaction described as short exchanges directed by the teacher (Mehan, 1979). A teacher initiates questions; students reply and then the teacher evaluate their answers (the so called IRE sequence). As Hayes and Matusov (2005) note traditional pedagogical approaches may be used even when teachers explicitly plan to promote conversation in the classroom. Yet, even if the teacher is the one "who knows all the right answers" in advance, such positioning is not necessarily a disadvantage. The evaluative turn of the IRE sequence may take different forms depending on the student's answer Arminen (2005). Teacher may confirm it (e.g. acceptance, repetition or a positive assessment); revoice or reject what the student has said. But just as well, teachers may initiate a new activity; turning the IRE sequencing into an important interactional resource.

Analyzing display of talk that goes on in the classrooms, Sohmer et al. (2009) focus on particular talk moves produced by the teacher, defining talk move as *"turn at talk that (1) responds to what has gone before; (2) adds to the ongoing discourse; and (3) anticipates or 'sets up' what will come next"* (p. 107). In a detailed examination of teachers who have been effective in using talk to promote learning, authors have distinguished a set of moves teachers may use to draw out what they call an "*academically productive talk*": revoicing, asking students to restate someone else's reasoning, prompting students for further participation, using "wait time" or challenging and providing a counter-example; thus allowing students' ideas to be formulated and made public instead of the authoritative knowledge of

the teacher. Authors emphasize how different talk formats (e.g. position driven discussion, recitation or partner talk) bring particular display of roles, motivating or promoting particular talk moves. Consecutively, this produces differentially socializing participant frameworks (Ibid).

Methodology

This research is part of a larger study aiming to explore how everyday classroom activities and practices are shaped by beliefs teachers hold on teaching and learning processes; with emphasis on the learning possibilities created for the students in the light of the beliefs. Sample of 96 upper secondary teachers from grammar and VET schools, teaching the Serbian language and literature (48 teachers) and mathematics (48 teachers) participated in the study. Sample gender representation was in favor of women (77% female and 23% male teachers); which is typical for the Serbian education context. Among the teachers involved 12% of the sample is in the age group under 30; 38% of teachers are in their thirties; 22% in their forties and 27% of involved teachers are over 50 years old.

The study employs a mixed method design. Quantitative methods are used to distinguish different types of teachers considering their beliefs on teaching and learning. A questionnaire has been constructed in order to quantify teachers' beliefs. Items in the questionnaire are formulated as closed type questions based on Likert-type with 4-point rating scales ranging from 1 (not at all agree) to 4 (totally agree)[29]. Two more instruments have been added to this scale: the Teachers' Sense of Efficacy Scale - short form (Tschannen-Moran & Woolfolk Hoy, 2001) and the List of teaching practices. This instrument is constructed as the Likert-type with 5-point rating scales ranging from 1 (never/almost never) to 5 (at almost every class), consisting of a list of twenty-five different classroom practices teachers may use in their work.

Taken as a whole, quantitative part of the study involved several steps. Factor analysis (with Keiser normalization criteria and Catel scatter diagram) has been applied to determine basic dimensions around which

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[29]The instrument has been tested in a pilot study involving 88 teachers.

teachers' beliefs on teaching and learning could be organized[30]. Factors with satisfying reliabilities (Cronbach's alpha>0.7) were correlated analysis to determine which are to be employed in further hierarchical cluster analysis. Hierarchical cluster analysis has been utilized to separate among different types of teachers considering their beliefs and dominant practices in the classroom.

In another step, two cameras were used to videotape two classes of each of the selected type representative. One has been focused on the whole class interaction; while the other was focusing on the teacher[31]. Videotaping sessions were followed by a video stimulated interview lasting approximately one hour. All videotaped interactions are transcribed using conversational analysis approach.

Different teacher types

In total seven dimensions were derived (reliabilities from 0.743 to 0.866) which were then used in a cluster analysis to distinguish among different types of teachers in respect to their reported beliefs and dominant practices in the classroom. Four different types of teachers were singled out in the study. "Laissez-faire" group perceives themselves as not being very successful in coping with disciplinary issues in the classroom; informing of very rare use of structuring practices and those stressing on to class atmosphere. "Traditional stressing on atmosphere" group has the highest group scores on structuring and atmosphere stressing practices; believing to be the most competent ones within the domain of disciplinary issues. The "traditional group" of teachers scores the lowest in participatory practices and practices focusing on atmosphere. This group scores considerably lower than other groups in the dimension related to modern set of beliefs on teaching and slightly higher than other groups in the traditional set. Teachers labeled as "modern group" score the highest on participatory and atmosphere

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[30]Factor analysis has been carried out using principal components method with Oblimin rotation (factors have been also tested using a Varimax rotation of main axis).
[31] Researchers have been present in order to videotape the interactions occurring in the classroom.

stressing practices, as well as in the set of modern beliefs on teaching and learning.

Subsequent analyses show significant connections between types of teachers and teachers' subject matter ($\lambda=0.426$, $\chi^2=40.951$, df=3, p<0.01). Both mathematics and language teachers were found in every of the four profiles, but with significantly different occurrence. Serbian language teachers are more distributed in the "laissez-faire" and "modern" labeled groups, while mathematics teachers mostly occupy "traditional" and "traditional stressing atmosphere" clusters. For example more than 50% of language teachers were found in the "modern" group, while only 3% of them were located in the "traditional" one.

Modern vs. Traditional Language teacher

Although language teachers were found among all the four teacher types singled out in the study; in a video stimulated interviews they all emphasized how developing personal meaning for the students is an important aspect of lessons. Moreover it was important for them personally to achieve this in their everyday work with the students. But how is this being done, especially in case of teachers with different registered beliefs on teaching and learning, as in the case of the "modern" and "traditional" type teachers? The matter is in the focus of this paper.

An instruction for all the teachers whose classes were videotaped was to hold a class as they have initially planned to do. Considering the topics of the selected classes (interpretations of particular literature works), we focus in what kind of language teachers use over the course of the lesson, how questions are raised and how personal interpretations are discussed and followed in order to provide a stimulating learning environment.

As for the lesson topics, concerning the excerpts that will be presented, they are organized as follows: (a) "modern" teacher – poetry of Sima Pandurovic, poem Festivity (third grade students) and (c) "traditional" teacher – Goethe's Faust with the analysis and structure of characters and situations (final year students). All lessons took place at grammar school.

The Academic tone

Conversation in class may take a more "academic" tone; but equally the conversation may be lead in genre of talk more familiar to the students. Goethe's Faust was the topic of the day in the lesson filmed with the teacher belonging to the traditional profile. Just before the extract 1 takes place students and the teacher discussed about the nature of knowledge and what kind of knowledge may be and are accessible to humans.

Extract 1 - The traditional teacher, lesson topic - Goethe's Faust with the analysis and structure of characters and situations

```
Teacher:      (1.0) how to go beyond what is existential (.)
              what we learn (.) right? hm by experience but
              at the same time a:nd by applying different
              scientific methods (.) how to go beyond that
              and understa:nd hm macrocosms beyond that
              microcosms?
Nemanja:      °yes°
Teacher:      so this human need to: understand or to
              absolutize knowledge (.) is hm (.) one of the
              variations we have already come across in the
              literature (.) you know if you think of
              gilgamesh gilgamesh also wishes to absolutize
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Academic tone is highly used in the talk produced by the teacher, while the wording remains formal and abstract. Teacher presumes idioms he uses are in the students' vocabulary too, as they are "the future academic citizens" *(how to go beyond that and understa:nd hm macrocosms beyond that microcosms?)*. A similar exchange takes place in class of the modern type teacher representative; but the exchange is between two smilingly equal participants. Teacher's talk is very alike to the one used by students in their everyday communication, which seems not to disturb "seriousness" of the interaction. Although certain rhythmic pattern in the way talk is produced exists in both classes, grammatical construction of produced utterances is more complex with the traditional teacher type representative.

Extract 2 - The modern teacher, lesson topic - poetry of Sima Pandurovic, the poem Festivity

```
Teacher:      come on let's hear (.) what what to him (.)
              what comes out of it if it is not that (.) so
              autobiographic? ((gestures quotation mark sign
              for autobiographic))
Vuk:          hm (.) well maybe hm maybe he's just so the
              one who stands on the other side who admires
              people who are different (.) he regrets he's
              not like that (.) and maybe that i:s some
Teacher:      and we all focus on that (.) we focus on what
              is different (.) with that we have (.) whether
              we wanted it or not placed ourselves in those
              on the other side ((murmur)) we have said
              somewhere at some point of the class that this
              i:s (.) actually a story in the society we
              li:ve in (.) that is the one pandurovic lived
              in (.) an image of the world that he had ((a
              student raises his hand)) say it
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The questions asked

Previous research on classroom shows institution of school is typified by peculiar patterns of interaction; following the IRE format (teacher initiates a question, students reply to it and then a teacher evaluates on their answers). However the way the teacher raises a question and handles students' answers afterwards, may largely affect and even "disturb" the IRE sequence. The excerpt 3 shows a situation of this type from a class held by a traditional type teacher. After summarizing on students' previous answers, teacher follows with shorter and more focused questions or simple repetitions of students' answers as a form of acceptance of what has just been said ("*to come closer to god*"). I one case repetitions continue with an addition of "*be careful here*", but no explanation follows on why students should be careful in the meanings they provided. Instead a new question is raised testing students' knowledge ("*what agnosticism is? you know what agnosticism is?*) After students do reply on what agnosticism is, the teacher provides them with a more suitable formulation of the answer continuing with a yet another question ("*what is in the nature of a man?*"). The following excerpt 4 is quite an opposite example. Discussion takes place on whether the poem Festivity is a love poem or a reflexive one.

Extract 3 - The traditional teacher, lesson topic - Goethe's Faust with the analysis and structure of characters and situations

```
Teacher:    what did these hm sciences provide him with or
            that kno:wledge he had been acquiring?
Marija:     (1.0) he wants to see outside
Teacher:    how?
Marija:     well he wants to: (.) see outside himself how
            shall I put it (.) like he thought (.) how to
            come to know  everything on earth so he could
            see outside of it (.) that is why he had been
            examining science after he gets closer
Andreja:    °to come closer to god°
Marija:     COME closer yes, come closer to god
Teacher:    °to come closer to god°
Marija:     as to some sort of a PERFECTION
Andreja:    to the essence (.) of life (.) on earth
Ivan:       god is the essence
Teacher:    the essence of life on earth (.) be careful
            here (.) to come close to god (.) the essence
            of life on earth (.) you said something right?
            ((points at a student))
Ivan:       no: we:ll I think that (.) of god (.) as the
            essence
Teacher:    and what and what is in the nature of a man
            (.) when the knowledge is concerned? (.) hm
            you know (.) what agnosticism is? (.) you know
            what agnosticism is? You learned that in
            philosophy ((murmur while they are trying to
            remember the answer))
Filip:      a doubt
            ((turns omitted))
Filip:      an agnostic doubts
Teacher:    yes (.) he doubts in?
Filip:      he doubts everything=
Teacher:    =in the knowledge (.) his own knowledge (.)
            but what is in the nature of a man?
```

In case of the "modern" type teacher questions are shorter and comparatively opened in their nature ("*let's act as if it is not why i it reflexive?*"), while students answers (e.g. Irena's turn) are not treated as right vs. wrong ones. Although the teacher is still the one initiating the question while the students answer to it; instead of "just" evaluating the answers (e.g. "*that's right bravo! so that's the point of the story if it's a love poem then I say you are my darling*"), she continues to prompt with the questioning in order to give students their own personal understanding of the nature of the topic (e.g. why do they believe that the poem discussed in class is no longer a love poem but rather a reflexive one?). Even when evaluation is there it is

not at the level of a right vs. wrong answers. Explanations are rather built from answers provided by the students ("*but when I say we came down from our wits and you are looking at us ...*"). Therefore questions are used to bring up critical aspects of what is to be learned – reflexivity of the poem into students' focal awareness, with enough space created for a further inquiry.

Extract 4 - The modern teacher, lesson topic - poetry of Sima Pandurovic, the poem Festivity

Teacher:	<u>just</u> a second (.) if this is a love poem?
Students:	<u>it's not</u>
Teacher:	not anymore?
Vuk:	no
Teacher:	then <u>what</u> is it?
Goran:	reflexive
Teacher:	reflexive <u>why is</u> it reflexive?
Vuk:	because maybe love isn't its basis (.) although there is a motive but it isn't the basic one=
Teacher:	=just let me tell you (.) in all the literary Critics it is said that it's a love poem
Marko:	°they are lying° *((laughter in the class))*
Irena:	**all depends on how you look at it-**
Teacher:	**let's act as if it is not (.) <u>why</u> is it reflexive?**
Vuk:	well cause (.) I don't know love passes through thepoem (.) <u>but</u> it is no:t the main as a topic (.) cause the *((story))* of the two in that poem it is not about their love (.) *((turns omitted))*
Teacher:	that's right <u>and</u> whom is the poem addressed to?
Vuk:	well it is addressed to people
Teacher:	**that's ri:ght bra:vo!** (.) so that's the point of the story <u>if</u> it's a love poem then I say you are my darling *((turns omitted))* **but when I <u>say</u> we came down from our wits and you are looking at us from the other side** (.) and crying there behind that fence (.) eh then it tells about something higher (.) <u>so</u> we have to pay attention <u>not</u> just to the topic but to hm to whom the poem is actually addressing *((gestures a sign for quotation marks))* (.) so: to me to you hm and so on (.) that is why I say to you <u>don't</u> always rely on literary critics

How meaning is constructed?

Format of the IRE sequence presumes teacher being in control of both content and direction of the exchange taking place in the classroom, leaving little space for students to explore possible variations in their answers or to draw on new opinions. As an opposite; a position-driven discussion provides opportunities for students to listen to each other; to build upon their ideas and on the ideas of others. In the case of the modern type teacher, throughout the lesson the latter format exists; while in the example bellow she goes one step further. The classroom discussion is ongoing for some time on the subject of whether the poem could be considered as a critique to the society. The teacher is summing up the previous answers when a student raises his hand, drawing a parallel from an episode in the novel "Quiet flows the Don" and the poem "Festivity", which they were talking about in classroom.

Ivan makes a comparison between Kazaks in the novel and the poem, but his parallels are unclear to other students since they have not read the novel yet. Ivan takes some time to elaborate on the idea of critique of the society as it could be observed in both the poem and the episode he is describing from the novel. All the way through the teacher encourages him to continue by saying "*this means nothing to them, as I see that they read sparingly this laugh*" and "*it doesn't matter! it is important that you read*", when he seems uncertain. Another student, Nina, gives direct comments on the subject, but the teacher keeps on encouraging Ivan with the words "*no no no he wants to make a parallel and he has come to an idea, all right when one sings*" again giving him the floor and enough time to explain what he had in mind until the end of the sequence.

In the next exchange (example of the lesson of the traditional type teacher) the exchange is based on questions related to the nature of the man and his striving to knowledge. The teacher addresses questions about knowledge, seeking two students' answers. The first to answer is Nevena; she elaborates on her answer and importantly she is not interrupted by the teacher while she explains her position.

Extract 5 - The modern teacher, lesson topic - poetry of Sima Pandurovic, the poem Festivity

```
Ivan:         well I would just like to make the same (.)
              like some sort of a parallel with what we will
              do ( ) with and quiet flows the don
Teacher:      all right
              ((turns omitted))
Ivan:         wai:t a sec:ond so ((laughter in the class))
              sima pandurović so in their madness there is
              some system (.) it's what is mirrored through
              the critics of the society (.) e: now the same
              was hm just I don't know wi:ng commander's
              name was gavrilo
              ((turns omitted))
Teacher:      all right
Ivan:         at the moment of the war
Teacher:      this means nothing to them, as I see that (.)
              they read sparingly ((some laugh at this))
              this laugh
Ivan:         well I haven't either=
Teacher:      =it doesn't matter! it is important that you
              read
Ivan:         so in the second (.) so in that
              poverty that the kozacks were exposed to
              because the government didn't give them what
              they wanted a:nd hm and regarding that war
              that he was surrounded with (.) he began
              singing songs hm: something that he alludes
              (.) alluded alludes (.) alluded that they have
              (.) had done everything for for the government
              as something as
              ((turns omitted))
Nina:         (quiet flows the don) well we are not talking
              about
Teacher:      >no no no< he wants to make a parallel and he
              has come to an idea, all right when one sings
```

Yet when another student Ana starts answering the question, just the opposite occurs. Her answer is a contrast to what Nevena has said: and the teacher seeks for a further explanation ("*but what do you imply by the world which is outside this world?*"). When Ana tries to answer, teacher develops again his intervention ("*the essence of the world's being right?*") eliciting a new question without any space for Ana to explain her thought. Therefore although both teachers raise questions corresponding to the whole group position-driven discussion; only in the case of the modern type teacher representative this positioning is fully used. This is especially exercised at

the level of giving enough time and space for the student to develop his/her idea, to construct new ideas, meanings and understanding. Although important issues are raised in the lesson of the traditional type representative (e.g. the nature of humans striving for knowledge and symbolical meanings of words used in a poem) at the end the teacher is the one prescribing the meaning and not the students themselves.

Extract 6 - The traditional teacher, lesson topic - Goethe's Faust with the analysis and structure of characters and situations

```
Teacher:        =in the knowledge (.) his own knowledge (.)
                but what is in the nature of a man? (2.0) So
                (.) what you can sense (.) what exists in the
                human nature (.) when the knowle:dge is
                concerned to what does a human being strive?
                ((points with hand in the direction of a
                student))
Nevena:         when the knowledge is concerned, man
                essentially (.) dou:bts everything, simply
                strives to: get a new concept (.) strives to:
                learn, to understand the world around himself
                (.) how to cope best in it a:nd in the faust
                they exactly examined everything upside- down
                those are (definitions) and the philosophy of
                the two different worlds but he took two
                different roads a:nd and came to the same end
                ((turns omitted))
Teacher:        so aha ((responds to the student who raised
                her hand)) go ahead
Ana:            no I think that faust wanted to learn about
                the world outside this one
Teacher:        (2.0) but what do you imply (.) by the world
                which is outside this world?
Ana:            well well the world one cannot see=
Teacher:        =the essence of the world's being right?
Ana:            °well let's say°
Teacher:        but hm hm (.) that's very hard to understand
                (.) so what does (.) hold together cosmos (.)
                let us say?
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Discussion

In this paper we focused on language use, questions raised and on how teachers' practices my open or limit the space in which students gain chance to develop their own ideas and thoughts relative to specific literature forms.

As already stated one of the elementary practices in class is the one where teachers ask questions and students answer it (or not). Subsequently the teacher raises a new question or evaluates on what students have previously said. But if the language used in the process is detached from the genre of talk used by students themselves it may be unclear whether an answer is expected at all. We may even ask then; when is the question really a question? When talk is done using high academic tone, in a form of a monologue, how is dialog established in classroom and space created for students to be heard at an equal level as the teacher himself? We do not dispute that certain level of academic talk must be kept inside the classroom; yet if insisting on an "academic tone" hinders establishing the dialogue, one question to what extent is justifiable to insist and maintain the academic format, as in the case of the traditional type teacher.

During the lesson questions are not raised to fill in time, but to contribute creating a space for learning. Linguistically "learning space" is established through questions teacher asks and responses produced by the students (Tsui et al, 2004). Still, questions teachers ask and the order they are asked in concentrates students' attention in a different way relative to what is to be learned. When questions are modified to provoke students' responses learning experiences greatly differ; such in the case of the modern type teacher, when she says "*let's act as if it is not*" (excerpt 4). Once a teacher asks an open question such as this, the space for learning broadens. Open questions not only challenge students to deliberate on numerous possibilities when formulating an answer, but they have to formulate it in a way which will not make sense just to them, but preferably to the rest of the class just as well. If the question is closed (e.g. *what agnosticism is?, excerpt 3*), possible answers are confined to one choice, leaving very little space for students to explore them.

Lecturing format in class assumes the teacher is in control of the content and direction of the conversation. He/she is asking questions and evaluating answers, while students are asked to provide with the correct one (i.e. the IRE sequence). In a whole-group discussion, the teacher leads students while they think through one particular problem or a question. Question raised may have more than one answer, for which arguments could be made. Consequently teacher's role is to help students to clarify and explain their own positions, including the evidence they provide. Thus students have an opportunity to listen to each other and to build upon their own ideas, as well as the ideas of others. In

respect of what Arminen (2005) described as flexibility in initiation-response-evaluation sequence and Sohmer et al. (2009) as set of moves teachers use to draw out an "*academically productive talk*" through e.g. revoicing, prompting students for further participation, using "wait time" or challenging and providing a counter-example; this flexibility and moves appear to be considerably evident in the case of the modern type teacher: leading to specific talk moves that elicit participation frameworks in which students are the ones developing their own ideas and on the ideas of others.

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Transcription symbols

[]	overlapping
=	latching
hm	backchanelling
(2.0)	pause
(.)	micro pause (less than 0.2 sec)
↓	falling intonation
?	rising intonation
! or ↑	exclaiming intonation
,	continuing intonation
-	abrupt cut-off
:	prolonging of sound
_	stressed syllable
((abc))	indicates comments added by the transcriber
( )	indicates non-transcribing segment of talk
(abc)	indicates transcriber is not sure about the words therein
°abc°	quiet speech
>abc<	quicker speech
<abc>	slower speech
"abc"	reported speech
ABC	high tone
abc	segment of special interest for the researcher

SCHOOL LEARNING AND STUDENT-TEACHER ATTACHMENT[32]

Ksenija Krstić[33]

In this research we study the importance of attachment to teacher for children's school achievement. There is a large body of attachment studies that indicate that secure attachment is a predictor of a better cognitive functioning, a higher school achievement, a better relationship with classmates and teachers. Most of the researches are studying attachment to parents, but relationship with teacher can also be a important factor. The main idea of this research is that children attachment to teachers make special social context in which school learning take place. The main goal is to study the association between attachment to math and language teachers with students marks in math and language. The parallel versions of RQ attachment questionnaire, for math and language teacher were administered to a sample of 130 14 years old students. For each of them we also collected date about math and language marks, final school mark, etc. Around 30% of students have secure attachment to teachers. But large percentage of students have preoccupied attachment, suggesting they are anxious and dependent, in need for secure and supportive interaction. Same percentage of students are classified as fearful, describing they relation with teachers as independent, with no need for support, trust or reliance on the teacher, which means they are not attached to teachers. The results show significant positive correlation between attachment to teacher and students achievement. Students with secure student - teacher relationship often have better school marks, while students with insecure attachment patterns often have lower marks. Results from this research suggest that the attachment is a relevant factor of social context in classroom that moderate a teaching-learning process.

Key words: School learning, attachment, school achievement, student-teacher relationship

A dominant line of a research in educational psychology is on cognitive aspects of teaching and learning. But different aspects of social interactions in classroom can influence teaching-learning process. Traditional researches are focused on the relationships between teacher and child related to instruction. Increasing number of studies has indicated that social-emotional climate of the classroom and social-emotional aspects of relationship between teacher and children are also relevant factors. The quality of teacher-student relations and

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interactions has been recognized as factor important for children school adjustment. (Birch & Ladd, 1997, 1998; Howes, Hamilton, & Matheson, 1994; Pianta, Steinberg, & Rollins, 1995). Research has indicated that teacher-child relationship quality is a good predictor of children's cognitive activities and social competence with peers (Howes et all, 2000). Similar to parent-child relationships, teacher-child relationships appear to serve a regulatory function with regard to development of children's social emotional and cognitive competencies (Greenberg, Speltz, & Deklyen, 1993).

In this research we study the importance of teacher-child relationship from perspective of attachment theory. The main idea of this research is that children attachment to teachers make special social context in which school learning take place. There is a large body of attachment studies that indicate that secure attachment is a predictor of a better cognitive functioning, a higher school achievement, a better relationship with classmates and teachers. Most of the researches are studying attachment to parents, but attachment with teacher can also be a important factor. Howes and her colleagues (Howes & Hamilton, 1992; Howes & Hamilton, 1993; Howes & Matheson, 1992) have used concepts from literature on parent-child attachment to define qualities of the teacher-child relationship (i.e., secure, avoidant, resistant/ambivalent). Lynch and Cicchetti (1992) describe five dimensions of teacher-child relationship that vary in emotional quality and proximity-seeking, based on children's perceptions: optimal, deprived, disengaged, confused, and average. Alternatively, Pianta and associates (Pianta & Steinberg, 1992; Pianta, Steinberg, & Rollins, 1995) have defined three dimensions of quality of the the teacher-child relationship based on teachers' perceptions: closeness, dependency, and conflict/anger. Research in this area has shown that the secure teacher-child attachments influences children's development in many of the same ways as secure parent-child attachments (Goosen & Van Ijzendoorn, 1990; Howes & Hamilton, 1992; Murray & Greenberg, 2000).

It might be argued, based on theories of parent-child attachment, that children may use their teacher as a "secure base" for exploring and learning (Bretherton, 1985), for the same sort of emotional security that characterizes the sensitive and responsive parenting (Howes and Hamilton, 1992; Howes, Phillipsen, and Peisner-Feinberg, 2000). Studies have shown that encouraging and positive interactions with teachers can have an impact on children's learning,

social competences and school adjustment (Egeland & Hiester, 1995; Pianta & Nimetz, 1991; Howes & Smith, 1995; Howes et all, 2000; Howes, Rodning, Galluzzo, & Myers, 1990; van IJzendoorn, Sagi, & Lambermon, 1992). Research has indicated that secure teacher-child relationships in preschool are related with competent behavior in that classroom and fewer problems in first grade classrooms. On the other hand, dependent teacher-child relationships are associated with children's lack of competence (Pianta & Nimetz, 1991; Pianta & Stuhlman 2004). Some research have shown that overall, children had relatively close, non-conflictual, and nondependent relationships with their teachers (as assessed via the STRS). Teachers reported having significantly more closeness in their relationships with girls, and significantly more conflictual relationships with boys (Birch & Ladd, 1997). Researchers (Howes, 1997; Howes, Rodning, Galluzzo, & Myers, 1990) found that children's cognitive functioning is related to the quality of the teacher-toddler attachment relationship. Further, it has been argued that a positive relationship between teacher and child is as important as a high quality educational program (Pianta & LaParo, 2003).

Most of the researches is focused on the attachment impact on the cognitive and social competencies in the early years of schooling. The main purpose of this study was to find out weather the quality of teacher-student attachment is related with children's school achievement at the ending years of the compulsory education. More specifically, taking into consideration that Serbian language and literature and Math are key subject in the curriculum the study was focused on these two school subjects.

Method

For the purpose of this research we adjusted the items of RQ attachment questionnaire to measure the attachment to teacher. The questionnaire consists of four items, each describing one of the patterns of attachment (secure, avoidant, preoccupied and fearful). Each description taps various quality of closeness, dependancy, trust and support in attachment relationship. The parallel versions of RQ, for math and language teacher were made. The questionnaire was administered to a sample of 130 14 years old students from three Belgrade primary schools. For each of them we also collected data about math and

language marks, final school mark in the previous year, parental education, and student SES.

Results

The main goal was to study the correlations between students attachment to math and language teachers and their marks in math and language. Our results show that around 30% of students have a secure relationship with their teachers. Results are shown in Table 1.

Table 1. Frequencies of different attachment patterns in relations with language and math teachers

Attachment patterns	Language teacher		Math teacher	
	frequency	**percent (%)**	**frequency**	**percent (%)**
Secure	46	35.4	29	22.3
Avoidant	17	13.1	9	6.9
Preoccupied	41	31.5	48	36.9
Fearful	26	20.0	44	33.8
Total	130	100.0	130	100.0

If we compare the frequencies of attachment patterns to language and math teachers, we can see that more students are securely attached to language teacher (35.4%) than to math teacher (22.3%). In the relationships with math teacher, more students have preoccupied and fearful attachment.

This distribution of attachment patterns to teachers is significantly different from distribution of patterns of general attachment measured with the same questionnaire: secure 43.7%, avoidant, 6.7%, preoccupied, 25.7% and fearful 23.9% (Buđevac, 2003; Hanak, 2006).

Students from our sample have somewhat batter marks in Language than in Math (mean 3.58 for language, and 3.01 for math). Students marks in Language and Math are shown in Table 2.

Table 2. Students marks in Language and Math

	Language		Math	
Student's marks	frequency	percent (%)	frequency	percent (%)
2	17	13.1	58	44.6
3	42	32.3	33	25.4
4	49	37.7	19	14.6
5	22	16.9	20	15.4
Total	130	100.0	130	100.0

Pearson Chi-square tests show that there are a significant correlations between students marks and their attachment relationships with corresponding teacher (χ^2=27.090, df=9, p=0.01 for language teacher; χ^2=21.058, df=9, p=0.01 for math teacher). Results of cross-tabulations are shown in Table 3 (language), and Table 4 (math).

Table 3. Cross-tabulation of Language teacher attachment and Language mark

Language teacher attachment			Language mark				
			2	3	4	5	Total
	secure	count	2	11	23	10	46
		% of attachment	4.3	23.9	50.0	21.7	100.0
		st. residual	- 1.6	- 1.0	1.4	0.8	
	avoidant	count	8	5	3	1	17
		% of attachment	47.1	29.4	17.6	5.9	100.0
		st. residual	3.9	- 0.2	- 1.3	- 1.1	
	preoccupied	count	4	14	16	7	41
		% of attachment	9.8	34.1	39.0	17.1	100.0
		st. residual	- 0.6	0.2	0.1	0.0	
	fearful	count	3	12	7	4	26
		% of attachment	11.5	46.2	26.9	15.4	100.0
		st. residual	- 0.2	1.2	- 0.9	- 0.2	
Total		count	17	42	49	22	130
		% of attachment	13.1	32.3	37.7	16.9	100.0

As we can see in previous table, students who are securely attached to language teacher rarely have low marks in language. More then 70% of them have mark 4 or 5. On the other hand, large percentages (47%) of avoidant students in this relationship have mark 2 in language. Similar results are gathered for math, as shown in Table 4.

Table 4. Cross-tabulation of Math teacher attachment and Math mark

Math teacher attachment			Math mark				
			2	3	4	5	Total
	secure	count	5	13	4	7	29
		% of attachment	17.2	44.8	13.8	24.1	100.0
		st. residual	- 2.2	2.1	- 0.1	1.2	
	avoidant	count	3	2	1	3	9
		% of attachment	33.3	22.2	11.1	33.3	100.0
		st. residual	- 0.5	- .02	- 0.3	1.4	
	preoccupied	count	25	10	10	3	48
		% of attachment	52.1	20.8	20.8	6.2	100.0
		st. residual	0.8	- 0.6	1.1	- 1.6	
	fearful	count	25	8	4	7	44
		% of attachment	56.8	18.2	9.1	15.9	100.0
		st. residual	1.2	- 0.9	- 1.0	0.1	
Total		count	58	33	19	20	130
		% of attachment	44.6	25.4	14.6	15.4	100.0

Among students with preoccupied and fearful attachment to math teachers, more than 50% in each group have mark 2 in math. On the other hand, just 17% of securely attached have mark 2, compared to 45% with mark 3 and 38% with marks 4 and 5.

Inspection of frequencies shows that our students are less securely attached to their teachers than one would expect based on the frequencies of general attachments (35% and 22% vs. 45%). This result suggests that relatively small number of students use their teachers as "secure base" for learning and exploring in primary school context. Also, we can see that some students are securely attached to language teacher but not to math teacher. This result indicate that pattern of attachment depend on both actors in dyadic relationship and that students develop secure attachment with those teachers who are more

sensitive and responsive to their needs. Similar results are gathered in research on attachment in different context (Krstić, 2012). This result is also in the line with previous results indicating that our students are more anxious with math teachers,and that math teachers are more "traditionally" oriented in their instruction and teaching (Radišić & Baucal, 2012). Causes for anxiaty are found in facts that mathematics is very demanding for its high level of abstractness and formality, and students find it "*boring, does not hold* [our] *attention* " (Videnović & Radišić, 2011).

Regarding small percent of securely attached students, it might be argued weather student-teacher relationship should be and is attachment relationship. Children can learn in school without establishing warm, affective bond with the teacher. Our results suggest that it is the case for at least one part of our sample. Students classified as "fearful" - term used for fourth pattern of child-parent attachment (20% in relation with language teacher, and more than 33% in relation with math teacher) described their relations with teachers as independent, with no need for support, trust or reliance on the teacher. For these students it can be said that they are not attached to their teachers.

On the other hand, more than 30% of students have preoccupied attachment with teachers. Those students are anxious about their relationship with teachers, they need their support and trust, they need to relay on teacher, and are concerned that teacher will not give them support and security they need. In the relation with math teacher, majority of those students have low math marks. It could be argued that different quality of interaction with teacher for those students could contribute to better school achievement.

The significant positive correlations of attachment patterns and students marks suggest that in warm, supportive, "secure" environment students achieve better school results. This finding is in concordance with findings from other researches indicating that secure teacher - student relation support learning and exploration in school, as the relation of the same quality with parents does.

Conclusion

Based on these results we can conclude that attachment is a relevant factor of social context in classroom that moderates a teaching-learning process. A warm, supportive, encouraging student - teacher interactions can have impact,

among other factors, on the children achievement at the end of the primary school. These results stress once again the importance of students' social relationship with the teacher for teaching, learning and school achievement. This research is correlational in design so future researches should be focused on determining the directions of influence between student-teacher attachment and school achievement. Question is whether low achievement influence on quality of teacher-student interactions or low quality of interaction influence on students' achievement. Results from these researches should be complemented with qualitative analyses of students and teachers perceptions of quality of their interactions and relationships.

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Culturally Diverse Settings in Education

ASPECTS OF INSTITUTIONAL CONTEXT FOR EARLY AGE CHILDREN IN MONTENEGRO (NURSERIES)

Tatjana Novović[34]

In accordance with the new demands of global changes in the educational system of our country, as well as with the newly recognized needs of all participators in the nursery context of the upbringing and education process, and in the light of modern scientific developments and practical cognition, it is natural to perceive the need for discussing and improving the professional competence of professionals working with children in nurseries.

The quality of early preschool context is perceived from the perspective of different expectations of professionals who create and interpret a variety of procedures in the nursery curriculum. Systematic approach to this particular instance in the Montenegrin educational and upbringing matrix is quite fluid and, in addition to the official reformative commitment to the concept of "open-kindergarten" (social model), still closer to the perception of the early stages of childhood as the phase of "immaturity, inability, incompetence" and the need for highly structured interventions in strictly controlled conditions "closed-nursery" (medical model). In practice, we recognize disparate intentions, i.e. the effort to maintain "a controlled, teaching, unified education", as a consequence of the traditional "deficit child model," and on the other hand, by means of updating the social model in the system, professionals are turning to a different concept of work in which children should be encouraged to learn "to know, do, be, live together." In the context of our nursery practice, teachers and nurses are those working with children.

In this paper, by means of a micro-qualitative study, using techniques of group interviews, we have attempted to get a more comprehensive picture of the problem we focused on i.e. the "implicit pedagogy" of the professional associates who work in the nursery, their activities in practice, the functioning of the partnership, potential problems in their work, from what they derive the suggestions on how to improve conditions for learning and creating a better quality of educational environment in the nursery.

Sounding the conclusions of this study we marked the distinction in the professional anticipations of professionals from two sectors: the educator promote open space nursery environment for learning, multiple interactions, improving practice as a concrete reality, deeming that in some organizational aspects it is wiser need to remain within the "traditional scheme", while nurses continue to advocate highly structured, closed institutions, with strictly controlled educational intervention.

Keywords: nursery, professionals, child image, implicit pedagogy, open approach

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Introduction

In the last decades of the last and the beginning of the new millennium more and more attention of scientists, professionals, creators and actors of educational policies and practices, is paid to the emphasized importance of early childhood for the overall development of personality. However, some questions, such as how to organize the functional operation of the nursery get different and sometimes conflicting answers. On the one hand, a closed, structured and prescriptive oriented institutionalized organization is a desirable model (medical model). However, the effort of experts and researchers of child development to reduce all aspects of children's changes and internal substantial constituent elements to a precise category continually shows its "gaps" and ambiguities. Therefore, more and more experts recognize and affirm qualities of "the kindergarten as open environment" (social model). Fragmenting and the artificial layering of child development, and encouraging its targeted "portioning" impoverishes the natural continuity which is woven out of shades from within and between different participating individualities. Thus, in contrast to the early development of closed facilities and linear teaching approach we emphasize the paradigm of open context and socio-constructivist approach to learning.

Implicit pedagogy of the nursery practitioners

Modern theories of natural learning stem from children's capabilities (and not vice versa!), their authentic needs and interests, which intertwine with different influences from the narrow and broad, direct and indirect external sources, and contribute to the construction of knowledge. Contrary to the teaching-oriented, didactically fragmented and often inanimate context of the latter approach, proponents of the open, humanistic pre-school model affirm experiential learning in a flexible, dynamically organized institutional context. In the open kindergarten one does not ignore the specific features of the environment and all the environmental parameters that reflect the content and requirements of an educational environment. We do not abstract the fact that the concept of childhood, in a way, certainly reflects the model of family, environment, culture, society, tradition and the current situation. In this sense, the role of educators is to create a socio-educational context as a specific reality

of each institution, which contains a number of incentives for children and adults and the opportunity for them to observe, monitor, and to be encouraged to progress to "the next area of development" (Vygotsky, 1977). However, the quality nursery context for learning is not only affected by the official programs and the prevailing paradigm but also by the "implicit pedagogy of educators" (Pesic, 1983) or "mental models of teachers" (Petrovic-Soco, 2007), or "folk pedagogy" (Bruner, 2000) of professionals who work with children. Pedagogical approach focused on the child as "the protagonists of his or her own development" finds its expression in an open environment that allows choice, autonomous action, activity and collaboration on curriculum. On the other side, there is still implicit, but traditionally recognizable, attitude to the child as an "immature reactive being," and the needs to "govern the group". Depending on the prevailing institutional model of nursery, professionals build and nourish different "child image" and their implicit pedagogy. In Montenegro, when it comes to children in nurseries, only educators and nurses are those who are in the immediate contact with children in their work; indirectly involved are professional associates, parents and representatives of the social environment. The professional dyad (teacher and nurse) reflects different "streams" and reflections, caused by the aforementioned implicit personal and strictly professional convictions. The openness of the educational and training institution, as a "learning organization", has influenced the role of altered and multiplied role of educators in our environment. Professionals are turning to a different concept of work in which children should be encouraged to learn "to know, do, be, live together" (Delors, 1996). Educators create the conditions for working and living in the community; they choose and carefully model their professional techniques and strategies of work, and constantly observe, monitor and evaluate progress of the child, thus becoming specialists in children's development, creators of the environment for learning, curriculum planners, evaluators, team associates and partners with the nurses (Vonta, 2009).

The work educators in our context shows a progress towards actualized social model, but the general impression is that the differences in implicit professional perceptions of nursery practices, both in the representatives of a profession, and between the representatives of various professions, are apparent. The remains of the medical model are still recognizable, especially in nurses, which was expected, given the experience and professional point of departure.

Finally, the question arises to what extent we have made a qualitative leap forward to an open nursery concept "as an integrated living organism", and how and whether the pedagogical intentions of our associates interfere (Malaguzzi, 1998).

Status and perspectives of the nursery context in Montenegro

Research overview

For the purposes of this study, we carried out a micro-qualitative study using the technique of group interviews in order to get relevant information about the problem in focus through the direct interaction of the participants. Aim of this study was to assess the "implicit pedagogy" of professional associates in the nursery (teachers and nurses), the quality of their partnership functioning, possible problems in the work and from what do they derive their suggestions on how to improve the quality of work with children. The sample included 20 teachers and 10 nurses from pre-schools in Podgorica, grouped into three focus groups. Guidelines for the group conversation is given in the form a half-structured problem-focused interview; the questions which were the issue of the conversation were defined in accordance with the given topic (June, 2012). From the transcripts of interviews, we identified the most common answers to the questions relating to this issue.

What is your role in working with children in nursery?

> *Teachers: We plan, monitor, organize, participate in play, record, feed, and change ... These children "absorb" and can do more. We see the great progress in them every day.*

It would be much better to comply with the standards regarding the number of children in groups.

> *Nurse: We just stagnate in the nursery. There's nothing more but taking care about children in it ... Even though we have a university degree, we just change and feed the children.*

Nurses: We do a lot, but we are constantly in the background. Teachers are not required in early-age nurseries.

How do you share responsibilities with the teacher/nurse?

Teachers: We plan and choose topics, organize working space, centers of interest, realize the goals and activities, while nurses care for children. However, we agree about everything. When it comes to keeping our record, we write about the upbringing and education process, we plan, record, evaluate, while they do the part on the care.

Nurses: It used to be better, teachers are now working only 5 hours (we work 6 hours) and they do not work as before. It would be better to have another nurse.

Do children of this age learn better by self-selecting, discovering or do you offer to direct them in this process?

Teachers: We allow them to be free to choose, experiment, try out and they love it. They like plasticine, clay, paint, paper collage ... They enjoy. They appear to be concentrated for a significant amount of time regardless of their age.

Nurses: Young children in large groups need attention and care. They do not know how to select, they should be kept, guided and controlled with respect to the daily regime.

Is the pace of life in nursery being planned accurately in all areas?

Teachers: We have a daily regime and there is no change in it. The children are expected to follow certain routine and there are no exceptions to it. We persist in our efforts to have the rules accepted by all. When it comes to the upbringing and education process, we are flexible. Children choose preferable centers, explore and follow their interests. The topics are also being chosen and planned depending on the children's interests.

And what about the parents?

All: It depends! There are parents who express more interest but they seem to have more respect for those working in the kindergarten. Most of them

do not know the name of their child's teacher: "My child is in the old one's group ... the one with glasses!" When you invite them to the parents' meeting, a few of them appear. Some tell us that this is not a school.

Do you talk with your colleagues about how to improve the quality of work and problems in practice?

Teachers: We often talk at meetings and during our shared activities. We make presentations and comment on them. Professional associates are a bit uninvolved. Almost completely uninvolved. They leave their telephone numbers and that's it. We also have children with special needs ..

What do you suggest?

Teachers: The respect toward the pedagogical norms on the number of children in groups, more didactics, work manuals, professional education, meetings, exchange of practical experiences, technical assistance experts, educators and employees and more assistance from nurses. Serious initial training of teachers in this field of work is also required.

Nurses: A smaller number of children in groups, more nurses, respect for the institution's regime, more support from teachers, professional associates and more lectures by medical professionals.

Conclusion

Based on information collected from the sample of respondents interviewed, and without trying to generalize the projected conclusions, based on indicators from a single perspective (one instrument only, the sample is not representative), we marked a couple of key observations and pedagogical implications regarding with focused issues:

- "Implicit pedagogy" of practitioners: teachers have started to "depart" from the long-cherished notion of a "helpless child" in the nursery (although there are

mixed perceptions among them) and they tend to "open" environment for experiential socio-constructivist learning; nurses are, as expected, much closer to the deficient model of childhood in an atmosphere of a rigid "daily regime" in the nursery;

- As for the division of roles, there is no clear framework, their perceptions are fluid, incoherent, and both sides agree that their professional status is not adequate, and that their effort is not adequately socially valued/ The nursery, according to them, ligers on the social margin, educators feel inferior compared to the counterparts working in kindergartens and other educational institutions; they accentuate the lack of awareness in society regarding the importance of early childhood, and in order to inaugurate their own professional qualities, some are still leaning toward isolation and hierarchical culture, rather than toward a collaborative one in an institution!

- Interviewees, in significant respect, agree in identifying the problem: disrespect of standards, lack of attention from policy makers, insufficient training and literature;

- In their recommendations, we recognize the difference in professional anticipations from these two professional sectors; teachers promote more open space and carefully planned and organized environment for learning, multiple interactions, study and improvement of practice as a concrete reality, respect for contextual curriculum (as for the routine and ways of grouping children it is advisable to remain in the "traditional scheme"), while nurses continue to advocate highly structured, closed institutions, with strictly controlled protection of child .

Finally, in order for nurseries to acquire the potential for further self-development, it is essential that practitioners become researchers of the nursery practices, and institutions to become the places of mutual learning, and not of professional opposition, subordination, rigid guidelines and neglect the real needs of children.

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NOTIONS OF CULTURAL DIFFERENCES AMONGST TEACHER EDUCATION STUDENTS IN THE SERBIAN AND SWISS CONTEXT[35]

Carola Mantel[36]
Nataša Simić
Danijela Petrović
Bruno Leutwyler

The aim of this research was to explore the notions of cultural differences among student teachers in the Serbian and Swiss context. We ask whether or not and in what ways these notions may relate to a level of intercultural sensitivity. For theoretical framing we refer to Bennett's (1993) "Developmental Model of Intercultural Sensitivity" (DMIS). Six semi-structured interviews were carried out with student teachers in the Serbian and Swiss context and analyzed according to content analysis (Mayring 2008). Additionally, each respondent was tested by a testing tool for intercultural sensitivity, the „Intercultural Development Inventory" (IDI) (Hammer, 2009). Our findings show that the notions of cultural differences can have a basically different orientation: Two of the respondents („type one") reveal a view that takes both sides of the perceived cultural difference into consideration. By these respondents, cultural difference is rather sought than avoided and it is rather found to be interesting than threatening. In contrast, most of the respondents („type two") display an „outsider's view" onto those who are perceived as culturally different. Here, cultural difference rather seems to be avoided than sought and it appears to be uncomfortable, maybe threatening. The IDI test results (which were only revealed after thorough analysis of the sample) indicate that the respondents of „type one" were within or in transition to an „ethnorelative" phase of development, while the respondents of „type two" ranged within an „ethnocentric" phase of development. Thus, this basically different orientation in the notions of cultural differences among student teachers seems to be related to different levels of intercultural sensitivity and to different worldviews.

Keywords: cultural differences, DMIS model, Switzerland, Serbia, student teachers

Introduction and theoretical background

In an increasingly globalized world, societies are facing a large number of challenges, among them, the challenge of dealing with cultural diversity. Accordingly, the educational discourse is in a constant development and search

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for the most adequate response to these challenges. Teachers, as key actors in the education field, need to be prepared effectively if they are to address cultural diversity in an appropriate way. Research has shown that the teachers' personal dispositions are crucial for performing specific tasks in teaching (e.g. Klieme & Hartig, 2008; Lipowski, 2006), however, these personal dispositions are barely investigated in relation to intercultural education and regarding teachers' notions of cultural differences and similarities.

Notions of cultural differences and similarities need to be understood within the frame of constructivism: Individuals construct their reality in a constant process of constructing and re-constructing, according to events that happen to them and that they assign meaning to (Kelly, 1955; see also Leutwyler, Petrović & Mantel, 2012).

According to Bennett (1986, 2004) this process of constructing and re-constructing takes place on different levels of sophistication and complexity. In the case of the notion of cultural differences, the levels of complexity correspond to the levels of intercultural sensitivity as described in the "developmental model of intercultural sensitivity" (DMIS). Bennett has found intercultural sensitivity to develop in stages and proposes a six-stage-model of development. Along this model, the first three stages take place within a worldview of ethnocentricity and the second three stages within a worldview of ethno relativity. Individuals with an ethnocentric worldview experience their own cultural framing as the only reference to construct their reality. The three proposed ethnocentric stages can all be seen as ways to avoid cultural differences, either by denying its existence (stage one), by raising defenses against it (stage two), or by minimizing its importance (stage three). Individuals, who move from an ethnocentric to an ethno relative worldview, realize that their cultural framing is only one organization of reality among many other possibilities and that another person with another cultural framing needs to be understood within his or her particular cultural framing. This way, the experience of difference is fundamentally altered and represents a major change in the development of intercultural sensitivity. The ethno relative stages are not ways of avoiding, but ways of seeking cultural difference (Bennett 2004, Bennett & Bennett 2001).

Research questions and methodological approach

Applying this theoretical framework to the field of intercultural education, we focus on the notions of cultural differences among student teachers. We search for patterns and ask whether or not and in what ways these notions may relate to a level of intercultural sensitivity and to an underlying worldview.

Since the research was conducted in the two countries of Switzerland and Serbia, an additional question is to ask in what ways notions of cultural differences differ between student teachers within the social contexts of these two countries.

As methodological approach, qualitative methods have been chosen and structured according to the concept of Grounded Theory (Glaser & Strauss, 2005). The sample consists of six participants in each country context. The Swiss sample comprises six female students preparing for primary school teaching in their fourth semester (out of six) and the Serbian sample comprises six female students preparing for English language teaching in their eighth semester (out of eight). All of them had already gained practical teaching experiences. Semi-structured interviews were conducted with all twelve participants and the transcripts of these interviews were analyzed according to the methodology of content analysis by Mayring (2008). Additionally, the participants completed the questionnaire of the "Intercultural Development Inventory" (IDI), a testing tool, which is grounded in DMIS and measures the level of intercultural sensitivity across the above mentioned model of development (Hammer, 2009). However, the test results were only uncovered after thorough analysis of the data in order to avoid an IDI test bias.

Results and discussion

We started the data analysis by comparing what was obtained in the Serbian and the Swiss sample regarding the notions of cultural differences. In both samples, cultural differences were mainly related to the following fields:

o regarding the students: to the use of language and to their visual appearance

- o regarding the students' parents: e.g. to the way parents provide learning support;

- o regarding the class/school community: to a cause for arguments and conflicts as well as to cultural diversity as a resource for mutual learning.

Preliminary analysis at an early stage of research shows two aspects that appear in both country contexts in a comparable way and that shall be singled out in the following lines:

Firstly, language appeared as an important issue when speaking about cultural differences. In both country contexts, when a child is not fluent in the language of instruction, it was often perceived as a deficit, as something making the teacher's work more difficult and preventing the child from being academically successful – as in the following examples:

"Intellectually they were equal to other children, but what presented an obstacle at school was language" (Serbian sample, Interview 4).

"Well one thing is certainly the language, which can be constraining, if you just don't understand it" (Swiss sample, interview 5).

Secondly, regarding the aspect of class community, some participants in both the Serbian and the Swiss sample described very thoroughly many situations of grouping and conflict between children of different cultural background (between individuals or between individuals and groups or between groups). When speaking about disadvantages of heterogeneous classes, these phenomena were often mentioned, as in the following examples:

"Once, at the beginning of the lecture, there were no boys in the classroom and I saw through the window a group of Serbian boys who wanted to beat up one Roma boy" (Serbian sample, Interview 1).

"He was Albanian or so, and he has really made a group with the other Albanians and the class was no more like ,We are a class', but there were really always little groups" (Swiss sample, interview 2).

On the other hand, there were some examples of perceiving heterogeneity as a resource, as something that can enrich and broaden the horizons – when children can learn from each other and when a teacher can learn a lot about other cultures, as well:

"I would stress similarities, but I will, at the same time, stress differences in customs, so everybody could express herself and learn something about the culture of another person" (Serbian sample, Interview 4).

"Well I find it always an advantage (laughs), because you get to know different ways of thinking […] well you really get new ideas, that maybe you wouldn't think of, because you're used to think into one direction […] this diversity really is enriching" (Swiss sample, interview 2).

Apart from these outlined aspects that appeared in the answers, further analysis showed that two different types of respondents could be identified. Two participants - subsequently referred to as "type one" – related cultural differences to an additional aspect. According to them, cultural differences appear as having different values and as a way of thinking. Both of them had a generally different way of talking about cultural differences. The data leads to the hypothesis that the explanation is to be found in their level of intercultural sensitivity:

One of these two participants emphasized that cultural difference meant to have different values. This participant describes one of her students during a school practice course who had an immigrant family background and who – according to the participant - needed to deal with different values, in fact, not only in terms of my values and their values, but rather in terms of values there and values here, which means that cultural difference appears quasi within this student as the student moves from 'here to there' and from 'there to here', and that the student will need to find a way to deal with this situation.

The other one of these two participants described cultural difference as a different way of thinking and stresses the influence of the language onto this way of thinking. This respondent doesn't say that "they speak differently" or "they don't know German as well as us", but she says that everybody's thinking is influenced by the language. Additionally, she describes the difference between

the behavior of children in a collectivistic society compared to the behavior of children in an individualistic society. Here again, she does not emphasize the difference between "us" and "them", but she rather explains, that all children behave according to their cultural context.

Both participants of this "type one" don't seem to have an "outsider's" view on people who are perceived as being culturally different, but they seem to have an "overview" or a view that takes both sides of this perceived difference into consideration. Instead of asking "What is making them appear culturally different to me?", they seemingly ask "How does someone experience cultural difference?" In both cases, difference is a rather sought than avoided and it is rather found to be interesting than threatening.

In contrast, the following statements of two other participants may be an illustration of the above mentioned "outsider's view" – subsequently referred to as "type two":

> "People who come from India or so. They don't have the same work desks at home for the children. Well, they don't provide a desk with a chair and pencil and so on. Which is quite normal to us, […] that the child has a work desk" (Swiss sample, interview 5).

> "Well yes, in those cultures… with this women's role, where the woman is maybe just at home, cooks and looks after the children… these images collide [she refers to the image of a housewife not being compatible with the image of a career-oriented working woman, A.N.], probably even for the children… that is their idea of what a woman has to do. Then it is difficult… one cannot convince this child of one's own opinion [the participant's opinion – in the role of a teacher, A.N.], a dispute… that could also get out of hand" (Swiss sample, interview 6).

Here, the answers reveal a different view onto cultural difference. Both of them seem to look at it from the "outside", explaining, from their point of view, where cultural difference appears. The categories remain very broad ("from India or so", "in those cultures") and the perspective is related only to their own worldview (parents not providing a desk while this is "quite normal to us"; or the idea of "them" having a different understanding of a woman's role,

which – according to her - inevitably collides with what she regards to be the right understanding of a woman's role). In both of these interviews, terms like "weird", "threatening", "be afraid", "too many foreigners" appear. Here, cultural difference appears to be uncomfortable, maybe threatening. In the IDI tests, the participants of "type one" scored in an area within or in transition to the ethnorelative phase and the participants of "type two" scored in the first stage of the ethnocentric phase.

Conclusion

Analyzing the data, common fields have been found that cultural differences have been related to, such as the use of language, the visual appearance, the students' parents' behavior or the effects on the class/school community. Additionally, we found indications that the notions of cultural differences can have a basically different orientation. Two of the participants ("type one") reveal a view that takes both sides of the perceived cultural difference into consideration. Cultural difference is rather sought than avoided and it is rather found to be interesting than threatening. In contrast, most of our respondents ("type two") display an "outsider's" view onto those who are perceived as culturally different. From these participants' point of view, cultural difference is rather avoided than sought and it appears to be uncomfortable, maybe threatening. Furthermore, in the IDI tests on the development of intercultural sensitivity, participants of "type one" have shown to score within or in transition to an ethno relative phase, while the participants of "type two" range within the ethnocentric phase. Thus, it seems that this basically different orientation in the notions of cultural differences can be related to the development of intercultural sensitivity. The presented research will be continued with an extended sample and the connections between notions of cultural differences and the level of intercultural sensitivity will be further scrutinized. Furthermore, the extension of the sample will allow a more differentiated comparison of the two country contexts. So far, we have gained insight that the notions of cultural differences are likely to be fundamentally different depending on the individual's development of intercultural sensitivity.

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WHY THE PLURALIST EDUCATIONAL CONCEPT: SOME THEORETICAL AND EMPIRICAL ARGUMENTS[37]

Mirosava Đurišić-Bojanović[38]

The paper analyzed how the principles of multiperspectivism and multiculturalism as constituents of the pluralist educational concept correspond to the demands of the youth successful social integration. Analysis was performed on two levels: conceptual and empirical. The main authors assumption is that *cognitive flexibility induces social tolerance*. The second assumption is that school practice of acceptance of plurality of ideas as representative of flexible cognitive stile could provide much more effective acceptance of democratic values. The starting point in our research was that there is a significant connection between the attitude to multiculturalism and acceptance of plurality of ideas. The first research goal was to provide an answer to the question. whether openness to other cultures is connected with a readiness to accept plurality of ideas? Research method was designed as a correlation study. The results point to a significant positive connection between attitudes to other cultures and acceptance of plurality of ideas. The second question is *how cognitive tolerance should be developed in education*. Research results of our four years test-retest experimental design confirmed our hypothesis: multiperspective teaching could contribute to cognitive flexibility. This is another empirical argument in favour of the pluralist educational concept. The author concludes that the findings offer support for an integrative pluralist approach in education, while practice in accepting plurality of ideas through different subjects represents a necessary condition for the acceptance of democratic values.

Key words. pluralist concept of education, pluralist cognitive style, multiperspectivism and multiculturalism.

Introduction

One of the basic premises for successful social integration of individual into democratic society is ability for democratic thinking and for democratic dialogue. How can we create institutions and *social climate* in which the society will enable *dialogue* of groups and individuals with different needs and interests? In theoretical discussions regarding the raised question, the ideas about pluralisation of education are articulated (Mosca,1974; Diller, 1992; Konopacki,

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2000; Konig& Zedler,2001; Đurišić-Bojanović,2005b; 2009; Джуришич-Боянович&Максич, 2007; Джуришич-Боянович, 2011). But the idea of pluralism, as the basic democratic value regarding the coexistence of differences, transferred to the specific social and educational context, carries with it certain social and political consequences That is actually the demand for equal treatment of different perspectives (Rescher, 1995; Blau, 2007). The tolerance of expressing different beliefs therefore presumes the principle of multiperspectivism.

Multiculturalism. beyond the logic of exclusion

The basic psychological assumption of democracy is readiness for appreciation of differences. According to the pluralist view, there is an internal logic in the link between democratic values and multiculturalism. Multiculturalism can be observed as the principle of equality in social practice. Several pragmatic arguments in favour of multicultural instruction stem from this fact (Adams, 1995; Feinberg, 1995; Blau, 2007). The variety of problems and solutions offered by different tradition and culture can serve not only as a resource of knowledge but a resource of ideas as well. The strength of this argument is increased from the perceptive of global interdependency and constant tensions between different communities.

Banks argues that ethnic identity recognition and appreciation in the class is the basis for appreciation of other ethnic identities and accomplishment of the national and cosmopolitan identifications (Banks, 1999). The critics warn that this kind of attitude carries the danger from particularism if appreciation of ethnic identity turns into the cover for ethnocentric curricula (Ravitch, 1992; Yudkin, 1993). The pluralist concept goes beyond the logic of exclusion - the logic of exclusion is replaced by logic of coexistence.

In education, pluralism is most often connected to the principle of multiperspectivism and multiculturalism (Rose & O' Neil, 1997).Therefore, at least two general tasks stem from this question. (1) identifying the psychological configuration that enables cognitive flexibility to the person, as a necessary condition of democratic communication and democratic relations and (2)

identifying the psychological construct that would properly and reliably represent the pluralist cognitive style.

Theoretical conceptualization of Acceptance of plurality of ideas

Acceptance of plurality of ideas (hereinafter API) is a multidimensional psychological entity based on Rokeach (1960; 1970) *the open mind* notion and Lippitt and White (1960) a *double mental focus*. That can be identified as cognitive, affective and conative aspect (Đurišić-Bojanović, 2005).

Content of *cognitive aspect* we can describe as accepting differences between people and their beliefs and ability of reconsideration of two or more alternatives referring to the same controversial topic. *Affective aspect* includes the attitude towards the desirability of different ideas. *Conative aspect* concerning to interpersonal relations they demonstrate more tolerance towards people who are not like-minded. Simultaneity in usage of successive and simultaneous way of thinking is key assumption of cooperativeness, of multiculturalism, as well tolerant relations (Tetlock,1986). That is conceptual argument why acceptance of the plurality of ideas as represent of cognitive flexibility is psychological correlate for some key competences of contemporary employees.

Why the pluralist educational concept: some empirical arguments

First, we tested the assumption that certain personality features encourage, that is, interfere with cognitive flexibility represented by API. The research was conducted on the accidental sample of 386 students of Social, Technical and Natural Sciences. The basic hypotheses are: (a) the traits of weak ego are in significantly negative correlation with API (b) the traits of strong ego are in significantly positive correlation with API (c) level of education in significantly positive correlation with API. The results confirmed all of three our hypotheses (Đurišić-Bojanović, 2005).

The second research aimed to provide an answer to the question whether openness to other cultures is connected with a readiness to accept plurality of ideas. The research was carried out on a suitable sample (N=306) of multicultural groups of grammar school and secondary vocational school

students in Subotica in 2005. The results point to a significant positive connection between attitudes to other cultures and API(r=.43; p< .01) (Đurišić-Bojanović,2006)

Third, cognitive flexibility can be improved by certain procedures. During the course of four school years students were practicing the acceptance of plurality of ideas. Practice was organised during the two-semester instruction as a part of the course *Psychology of Interpersonal Relations*. Main practice topics were discussion of social controversies and pursuit of arguments for opposite attitudes. We are dealing with an experimental design pre-test – post-test. In order to determine the effects of practicing, pre-test scale of API was administered at the beginning of the school year, and post-test scale at the end of summer semester. Pre-test API1 and post-test API2 scale were constructed by Đurišić-Bojanović. Cronbach alpha reliability: API1 α = 0.83; API2 α = 0.84). T-test results indicate significant differences between the results accomplished by students that participated in the experiment on the pre-test and post-test scale (t= 88.960 df =123 p< .001). The findings confirm the assumption that it is possible to accomplish certain progress with respect to cognitive flexibility in instruction by practicing API (Đurišić-Bojanović & Der Radivojević, 2010).

Concluding remarks

Let us go back to the initial question: is it possible to develop in educational system the cognitive correlates of key competences for successful social and professional integration of the young? There are three dominant attitudes as an answer. One of them stems from the theory of ego-defence, according to which the attempt of replacing conventional learning by learning based on the principle of self-research and facing different approaches is a threat in itself (Rokeach, Restle, & Andrews, 1964; Leach, 1970; Greenstain, 1975; Djurisic-Bojanovic, 2005a;2009a;2010; Djurisic-Bojanović, & Savković, 2010).

The second attitude stems from social learning theories, according to which developing a certain educational style can indirectly influence the development of cognitive style (Goldstein & Blackman, 1978). The third attitude is based on theories of cognitive style, first and foremost, on Sternberg's theory of mental self-regulation (Sternberg, 1988).

But, there are findings indicating that the majority of school systems favour analytical, concrete, convergent thinking. On the other hand, it is possible to change that in teaching by appropriate instructions (Gojkov,1995; Sternberg& Grigorenko,1995; Brophy,2001; Zhang, 2002; Đurišić-Bojanović & Maksić, 2011). In order for teachers to contribute to such a change, it is not necessary to think about changing their predispositions for different cognitive styles; it is possible to pursue another direction by encouraging a multiperspective approach and accepting plurality of ideas. The instruction that integrates the principle of multiperspectivism where various knowledge sources are re-examined, as well as their meanings within various discourses, but also encouragement of cognitive flexibility of the learner, would be an desirable path in educational practice.

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CADEMIC PERFORMANCE DIFFERENCES AMONG ETHNIC GROUPS: DO THE DAILY USE AND MANAGEMENT OF TIME OFFER EXPLANATIONS?

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This explorative study describes time use and time management behavior of ethnic minority and ethnic majority students as possible explanations for the poorer study results of ethnic minority students compared to those of majority students. We used a diary approach in a small sample to examine students' daily time use in both a lecture week and an exam week. Time management behavior was measured in a questionnaire, as were demographic variables. The sample consisted of 48 full-time first-year university students of Business Administration of which 24 students belonged to a non-Western ethnic minority group. Student pairs (ethnic majority versus non-Western ethnic minority) were fully matched by gender, socio-economic status, living situation and type of secondary education. Results showed that ethnic majority students earned higher grades compared to ethnic minority students. As regards time management behavior, ethnic majority students appeared to have a stronger *preference for organization* (e.g., leaving a clear study space at the end of a study day) than ethnic minority students. No differences between ethnic groups were revealed *in setting goals and priorities* (e.g., setting deadlines) and *mechanics of time management* (e.g., making to-do lists). Daily time use also appeared to be the same for both ethnic groups. Given the modest sample size, results should be interpreted as mere indications of possible differences and similarities between the ethnic groups.

Keywords: time use, time management, higher education, ethnic background, academic success

In the past decade(s), the lives of students have changed. Next to school, which is an important realm of students' lives, student jobs have become a major activity as well (Butler, 2007; Derous & Ryan, 2008). Besides work, students also spend time in extracurricular activities, watching TV, shopping, exercising, and so on. Because time is a limited resource, students need to divide their time over several activities, need to make choices what (not) to do, and need to set

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priorities. Studies on students' time use have investigated the relationship between time use and academic grades (e.g., Derous & Ryan; Dolton, Marcenaro, & Navarro, 2003; Nonis & Hudson, 2006). A recent development in these studies is to look at all student time instead of only looking at time spent studying or time spent working in relation to academic success (Kolari, Savander-Ranne, Viskari, 2008; Nonis, Philhours & Hudson, 2006; Witkow, 2009).

To our knowledge, until now only few studies have examined possible differences in time use between ethnic groups (DesJardins, McCall, Ott, & Kim, 2010), and to what extent achievement and time use were similarly related for individuals from different ethnic backgrounds (Witkow, 2009). This lack of research is remarkable, because higher education in Western societies has become ethnically more diverse in the past decade(s). In the Netherlands, for example, the number of first year students of non-Western descent, who in the Dutch context are considered as ethnic minority students, almost doubled up to a total number of 19,474 students from 2000 to 2010. This caused a relative increase from 10% non-Western influx of the total number of first year students in 2000 to 15% in 2010 (Statistics Netherlands, 2011). These changes in the ethnic backgrounds of the student population raise the question how well this group of minority students is performing. International data generally show that study careers of ethnic minority students are less successful compared to the study careers of ethnic majority students. Ethnic minority students earn less credits in the same amount of time (Meeuwisse, Severiens, & Born, 2010; Swail, Redd & Perna, 2003) and they on average have lower completion rates in higher education compared to non-minority students (Hobson-Horton & Owens, 2004; Van den Berg & Hofman, 2005). Because there are indications that time use may differ between ethnic groups (DesJardins et al.; Witkow), in the present study, we will focus on the time use by ethnic majority students in comparison to the time use by non-Western ethnic minority students as a possible explanation for the poorer study results of ethnic minority students compared to those of majority students. The research questions of the present study are as follows:*Do ethnic majority students and non-Western ethnic minority students differ in terms of*

a) academic performance?
b) time management style?

Time use on a typical day in a lecture week versus an exam week?

Although we matched the group of ethnic majority and ethnic minority students on the main background variables (i.e., gender, socio economic position, living situation and type of secondary education) for reasons of internal validity, the modest sample size ($N = 48$) precludes us from making strong generalizations. Therefore, the results of the present study should be considered as indicative of differences and similarities between the ethnic groups which need to be confirmed in larger samples.

Method

Participants

The sample consisted of 48 full-time first-year university students of Business Administration attending a large university in the Western part of the Netherlands in the spring of the 2009/2010 academic year. Half of the respondents (24 students) belonged to a non-Western ethnic minority group, the other half belonged to the Dutch majority group. The distinction between ethnic majority and ethnic minority students was based on the definition used by Statistics Netherlands (Centraal Bureau voor de Statistiek, CBS). According to the CBS, an individual belongs to an ethnic minority group if at least one parent was born outside the Netherlands. In the sample of ethnic majority students, 24 students were identified based on gender, socio-economic status, living situation (i.e., with at least one family member such as a parent, uncle or sister versus living by themselves or in student housing), and type of secondary education[40] in such a way that 24 pairs of respondents (ethnic majority student versus non-Western ethnic minority student) were created. All student pairs were fully matched on the above criteria so that observed differences between the two groups of students were – possibly – related to students' ethnic background.

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[40] In the Netherlands, students have access to university education after completing pre-university education (i.e., a VWO degree), after successfully completing the first year in higher vocational education or the bachelor in higher vocational education, and after obtaining a colloquium doctum.

Procedure

Participants were solicited via the university's study information network and via an e-mail announcement. Instructions were provided to the students during a lecture and on Blackboard. A paper and pencil version of a questionnaire was completed during the lecture measuring time management behaviors and demographic information such as gender, age, and ethnic background. A diary approach was used to document students' time use during two separate weeks. Students were instructed to fill in the diary daily, during these two weeks. The first week was in the middle of the 12-week term in which no exams took place, and the second week was the exam week at the end of the term. The diary survey measured each student's daily activities from the moment of rising until going to bed in the evening or night, in units of half an hour. Participants provided their identification numbers on the diaries as well as on the questionnaire. In this way, the researchers were able to match the questionnaires and the diary surveys. Furthermore, GPAs were obtained from university records and could be matched to the data of individual students.

Measures

Academic performance. Students' GPA served as an objective measure of academic performance. Data were obtained from the academic records of the university in the term the data were collected, namely the third term of the 2009/2010 academic year.

Questionnaire data

The time management behavior scale (TMBS) (Macan, 1994) was used to assess students' time management behaviors. The TMBS was obtained from T.H. Macan via personal communication (January 25, 2010). The scale contains the following three subscales, with a 5-point response scale for each item ranging from 1 *(never)* to 5 *(always)*.

Setting goals and priorities. This subscale consisted of 10 items asking respondents to report on the extent to which they set deadlines, goals and priorities (e.g., "I set deadlines for myself when I set out to accomplish a study task").

Mechanics of time management. Mechanics of time management were measured using eleven items. Respondents were asked about the extent to which they make to-do-lists and schedule activities when studying (e.g., "I write notes to remind myself of what I need to do").

Preference for organization. Preference for organization was assessed using T.H. Macan's preference for organization scale, which consists of eight items (e.g., "At the end of a study day I leave a clear, well-organized study space").

Diary data

In concordance with the study of Nonis et al. (2006), we investigated students' time use encompassing all student activities, not just study or work. A daily diary approach was chosen instead of retrospective questions (e.g., in a typical week during the last academic year, how many hours did you spend studying?) to avoid reporting error in students' recollection of how much time is spent (Dolton et al., 2003; Nonis et al.; Stinebrickner & Stinebrickner, 2004). Students completed online daily diaries every evening for two separate weeks (a typical lecture week and an exam week), providing information on their time use for the day. Completing a diary took about five minutes each day.

Time spent on various activities. Student diaries, as described earlier, were used to measure time use variables. In order to answer research question 3 (i.e., do ethnic majority students and non-Western ethnic minority students differ in terms of time use on a typical day in a lecture week versus an exam week?) composite scores of daily time use were calculated from the time students spent on each of the activities in the diary period.

Nine broad categories of activities were investigated in this study, which were the following: Time spent studying, time spent working, time spent on leisure and sports, time spent on (personal) care, time spent on housekeeping, time spent eating and drinking, travel time (e.g., from home to university and vice versa), time spent on administration and other activities such as taking driving lessons.

Results

Means, standard deviations, alpha coefficients and correlations between all variables are presented in Table 1.

Academic performance

The first objective of the study was to identify a possible difference in study performance (i.e., GPA) between the group of ethnic majority students and ethnic minority students (research question 1). Table 1 shows a significant negative correlation ($r = -.31$, $p < .05$) between ethnic background and GPA. This means that ethnic majority students ($M = 6.31$, $SD = .73$) earned higher grades compared to non-Western ethnic minority students ($M = 5.87$, $SD = .67$).

Time management

Time management behavior (i.e., setting goals and priorities, mechanics of time management and preference for organization) and academic performance (GPA) were not significantly related (Table 1).

In the regular lecture week, time management behavior appeared to be positively related to the time students spent studying. This means that the more students set goals and priorities, the more mechanics of time management they used and the more they organized their study, the more time was spend studying. Students who set goals and priorities also appear to have more leisure time and time for administrative tasks.

In the exam week, time management behavior is no longer related to study time (Table 1). Negative relationships are found between setting goals and priorities and time spent working, and between setting goals and priorities and leisure time and sports in the exam week. Students with a high preference for organization also seem to work less in the exam week.

Table 1. Means, Standard Deviations, Alpha Coefficients and Correlations Between all Variables for the Lecture Week and the Exam Week

	M (SD)	M (SD) Lecture week	M (SD) Exam week	1	2	3	4	5	6	7	8
1. Gender	1.83 (.38)	-	-	(-)	.30*	.00	-.08	.15	.12	-.01	.10
2. SES	1.36 (.49)	-	-	.30*	(-)	.00	-.12	-.12	-.04	.05	.12
3. Ethnic background	1.50 (.51)	-	-	.00	.00	(-)	.00	.17	-.07	-.30*	-.31*
4. Living situation	1.42 (.50)	-	-	-.08	-.12	.00	(-)	.21	.34*	.26	.16
5. Goals and priorities	3.46 (.53)	-	-	.15	.17	.17	.21	(.76)	.65**	.59**	-.21
6. Mechanics of time management	2.76 (.58)	-	-	.12	-.04	-.07	.34*	.65**	(.71)	.50**	.07
7. Preference for organization	3.54 (.70)	-	-	-.01	.05	-.30*	.26	.59**	.50**	(.74)	.02
8. GPA	6.11 (.73)	-	-	.10	.12	-.31*	.16	-.21	.07	.02	(-)
9. Time spent studying	-	3.55 (1.63)	6.12 (1.96)	.23	.23	-.03	-.04	.40**	.34*	.48**	.11
10. Time spent working	-	.87 (.98)	.34 (.88)	-.18	-.44**	-.14	-.08	-.31*	-.20	-.28	-.13
11. Time spent on leisure and sports	-	4.91 (1.58)	3.83 (1.26)	-.34*	-.12	-.16	-.14	.46**	-.34*	-.26	-.10
12. Time spent on care	-	.92 (.46)	.96 (.78)	.23	-.03	.45**	-.16	.16	-.22	-.14	-.10
13. Time spent on housekeeping	-	.46 (.47)	.28 (.40)	.06	-.00	.19	.43**	.20	.15	.03	-.06
14. Time spent eating and drinking	-	1.45 (.46)	1.57 (.44)	-.01	-.15	-.21	.26	.11	.19	.10	.09
15. Time spent traveling	-	1.16 (.63)	1.33 (.54)	.15	.10	-.14	-.07	-.04	.10	-.03	.25
16. Time spent on administration	-	.13 (.27)	.07 (.16)	-.01	.20	.22	.19	.38**	.15	.16	-.06
17. Time spent on other activities	-	.53 (.68)	.28 (.41)	.12	.06	.14	-.04	.05	.14	-.07	.06

Table Continued

	9	10	11	12	13	14	15	16	17
1. Gender	.42**	-.06	-.38**	.07	.15	.00	.00	-.07	-.11
2. SES	.11	-.16	.09	.09	.12	-.00	.00	.06	-.32*
3. Ethnic background	-.10	.21	-.11	.41**	.11	-.34*	.11	.09	-.25
4. Living situation	.08	-.21	.00	.06	.40**	-.01	-.23	-.02	.07
5. Goals and priorities	.19	-.31*	-.29*	.08	.17	-.04	-.01	.20	.17
6. Mechanics of time management	.03	-.06	-.22	.13	.20	.08	.03	-.20	.29*
7. Preference for organization	.26	-.33*	-.08	-.13	.06	.14	-.13	.14	.16
8. GPA	.00	.10	.06	-.01	.10	.25	-.17	-.14	.18
9. Time spent studying	(-)	-.40**	-.46**	-.18	-.25	.03	-.32*	-.07	-.14
10. Time spent working	-.28	(-)	.02	.16	-.06	-.29*	.22	.00	.02
11. Time spent on leisure and sports	-.62**	.11	(-)	-.31*	-.07	-.13	-.00	-.15	-.15
12. Time spent on care	.07	-.16	-.24	(-)	.41**	-.05	.15	.03	-.08
13. Time spent on housekeeping	-.16	-.10	-15	.22	(-)	-.07	-.20	.25	-.07
14. Time spent eating and drinking	-.11	-.30*	.00	-.12	.00	(-)	.27	.03	.04
15. Time spent traveling	-.10	-.11	.05	-.04	.00	.05	(-)	.10	-.10
16. Time spent on administration	-.00	-.17	-.22	.34*	.57**	-.08	-.05	(-)	-.15
17. Time spent on other activities	-.03	-.10	-.41**	.17	-.03	.00	.12	-.03	(-)

Note. Correlations for the college week are presented below the diagonal, correlations for the exam week above the diagonal. The demographic variables were coded as follows: gender (1 = Male, 2 = Female), socio-economic status (1 = no higher education, 2 = higher education), ethnic background (1= ethnic majority student, 2 = non-Western ethnic minority student), living situation (1 = with family, 2 = alone or with others than family). Goals and priorities, mechanics of time management and preference for organization were measured on a five-point scale (1 = never - 5 = always). GPA was measured from 1-10 (1 = lowest score and 10 = perfect score). *N = 44-48* (*N* varies due to missing values). ** $p < .01$ * $p < .05$

Time management and ethnic background

As regards the second research question, namely whether ethnic majority students and non-Western ethnic minority students differ in term of time management behaviors, we found a negative correlation ($r = -.30$, $p < .05$)

between ethnic background and preference for organization (Table 1). This result indicates that ethnic majority students have a higher preference for organization compared to ethnic minority students ($M = 3.75$, $SD = .59$ (ethnic majority) vs. $M = 3.33$, $SD = .75$ (ethnic minority)). For ethnic majority students 'preference for organization' seems the time management behavior most often used. Ethnic minority students on the contrary most often used 'setting goals and priorities' as a time management behavior.

Students' time use on a typical college day and an exam day

The third and final objective of the study was to determine how much time students spend on various activities (such as studying, working) during a typical day in a lecture week and an exam week, and whether there are differences in time use on these typical days between ethnic majority students and non-Western ethnic minority students. No significant correlations were identified between any of the time variables and academic performance at the .05 level in both the lecture week and the exam week. As can be seen in Table 1, students on average spent 3.55 hours studying a day in a regular lecture week, of which – not shown in Table 1 – 1.16 hours are spent on formal study (e.g., attending lectures) and 2.40 hours are spent studying outside of class (i.e., self study). No differences were found in study time (i.e., overall study time, and study time differentiated in formal study time and self study time) between ethnic majority students and ethnic minority students (see Figures 1 and 2). A remarkable finding is that students spent more hours on leisure and sports per day (4.91 hours) in a regular college week, than on their study. This finding is true for both ethnic majority students (5.16 hours) and ethnic minority students (4.67 hours) (see Figure 1). Ethnic minority students spent more time on care than ethnic majority students (1.12 hours versus .72 hours). Looking more closely to the type of care (i.e., personal care versus caretaking of others such as family members) ethnic minority students appeared to spend more time on personal care compared to their majority counterparts.
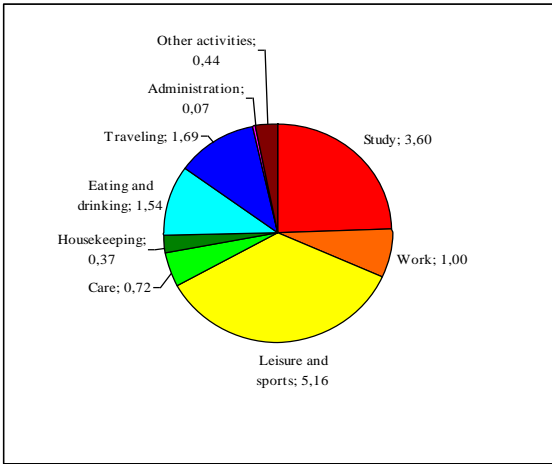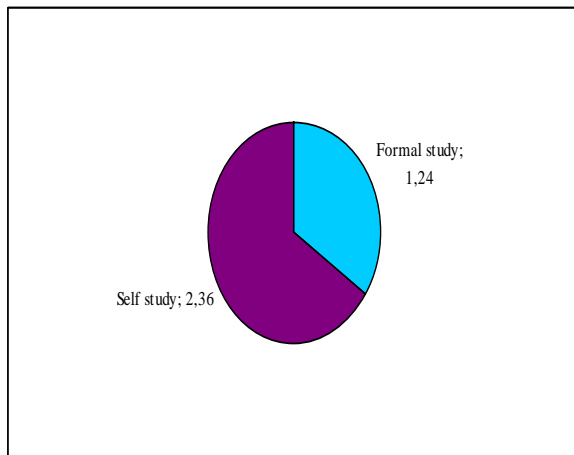
Ethnic majority students
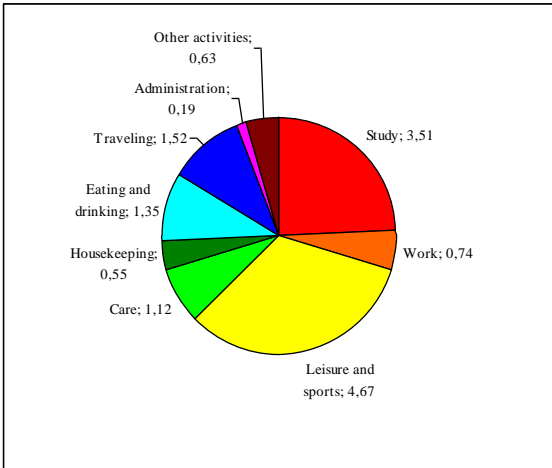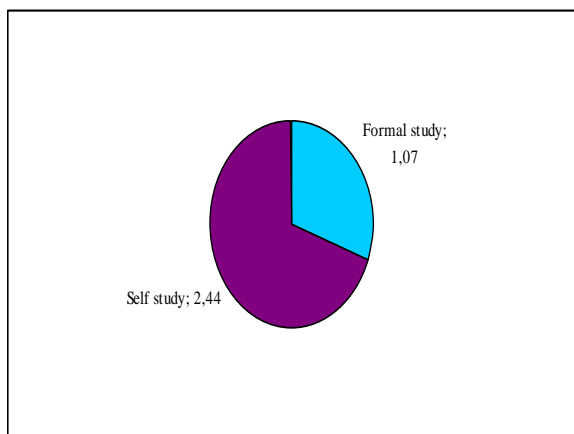

Ethnic minority students

Figure 1. Average time use in hours in lecture week

Students on average spent 6.12 hours studying a day in the exam week (see Table 1), which is an increase of more than 40% compared to the lecture week. The increase in study time in the exam week compared to the lecture week holds for both the group of ethnic majority students (6.34 hours a day in the exam week) and the group of ethnic minority students (5.90 hours a day in the exam week) (see Figure 3). In the exam week, students spent less time a day on leisure and sports (3.83 hours) and working (.34 hours). This finding is similar for both ethnic majority students (3.97 hours on leisure and sports a day and .16 hours working a day) and ethnic minority students (3.69 hours on leisure and sports a day and .52 hours working a day). As in the lecture week, ethnic minority

students spent more time on care than ethnic majority students (1.28 hours versus .65 hours) in the exam week. Again, it appeared to be personal care on which ethnic minority students spent more time compared to ethnic majority students.
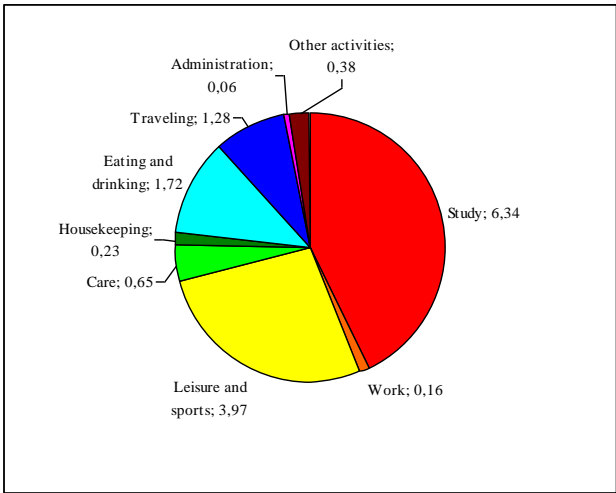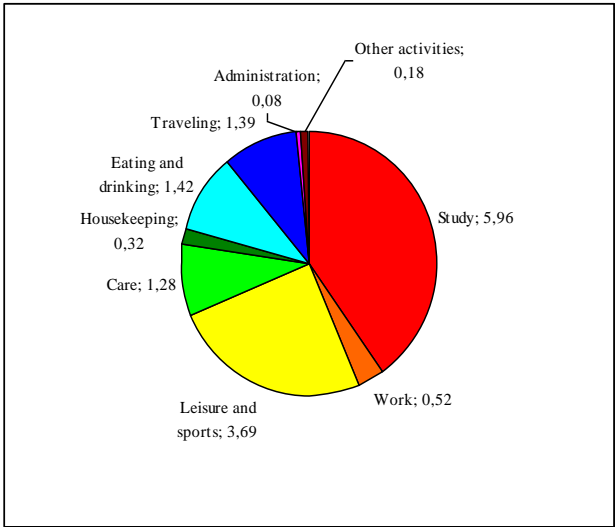

Ethnic majority students

Ethnic minority students

Figure 2. Formal study time and self study time in hours in

Ethnic majority students

Ethnic minority students

Figure 3. Average time use in hours in exam week

Discussion

The results of the present study show that ethnic majority students obtained higher grades compared to ethnic minority students. Ethnic majority students appeared to have a stronger preference for organization than ethnic minority students. No differences attributable to ethnicity were revealed in setting goals and priorities and mechanics of time management. As regards daily time use both ethnic majority and ethnic minority students spent more hours on leisure and sports per day in a regular lecture week, than that they are studying. In the

exam week, daily study time increases at the cost of time spent in leisure and sport activities and time spent working. These findings hold true for both the group of ethnic majority and ethnic minority students. Overall, results of the present study concerning students' time management behavior and daily time use do not seem to explain the difference in academic performance between ethnic majority students and non-Western ethnic minority students.

Implications for Research and Practice

Given the small scale nature of our study, a larger scale study is needed to confirm our findings and make generalizations. Apart from a larger scale diary study, it would be interesting to include a different set of possibly relevant moderator variables. The reason is that the direct relationship between time management behavior and GPA may be moderated by personal and situational variables. For example, students who participate in several activities simultaneously (e.g., studying, working, membership of a sorority, sports), and who therefore lead busy lives, probably need to set goals and prioritize all the time. These students probably have good time management skills that could be beneficial with regard to their study. However, despite their excellent time management skills, the time all these different activities take may keep these students from spending the necessary time studying, with negative consequences for their academic performance. In groups of students with less extensive lives, a similar excellent level of time management skills may lead to higher academic performance. More generally, the impact that time management behavior has on academic performance may be different for different students under different situations or circumstances.

Limitations and Directions for Future Research

This study is limited first in that the small sample made it impossible to generalize the results beyond the two ethnic samples. By fully matching student pairs on gender, socio-economic status, living situation and type of secondary education the differences between the two groups of students were – likely – attributable to students' ethnic background (i.e., Dutch majority background versus non-Western background). However, it must be kept in mind that future studies need to study the results observed in this study in a larger sample.

A second limitation is that all of the data for this study came from the third term in the participants' first study year. Thus, no conclusions can be drawn about causal relationships, such as whether patterns of time use contribute to academic achievement or whether, vice versa, academic achievement causes students to spend their time in certain ways. It is likely that both are true and that the relationship between achievement and time management is reciprocal. To further uncover the ambiguous relationship between time use and academic achievement, it would be interesting to investigate these causal pathways in a diary study that takes a longer time period into account or that includes different cohorts of students and periods during the academic year.

Conclusions

The present study demonstrated that non-Western ethnic minority students obtained lower grades compared to ethnic majority students. Ethnic majority students appeared to have a stronger preference for organization than ethnic minority students, but no differences are found between the two ethnic groups in setting goals and priorities, and mechanics of time management. No differences between ethnic majority and ethnic minority students were found in daily time use in both the lecture week and the exam week. Thus, results concerning students' time management behavior and daily time use do not seem to explain the difference in academic performance between the two ethnic groups of students.

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TREFOIL PARADIGM IN EDUCATION (CIC): BEST TRADITIONS MEET CURRENT CHALLENGES[41]

Jasmina Šefer[42]

The *Trefoil* paradigm in education promotes three goals as major values: *creative* learning, *cooperation* and *initiative*. Their foundation may be found in major philosophical ideas of the classical educational theories in the past and is supported by numerous research studies. At the same time the *Trefoil* paradigm echoes the most important challenges of the modern changeable world and is applicable to all stages of K-12 development and further high academic and post academic period of adult education including professional practice and personal life experience. The approach has been developed for the past 27 years through the set of empirical studies and nowadays by conducting an extensive four year study in Serbia in order to test the theory and provide recommendation for educational policy and practice.

Key terms: trefoil paradigm, educational policy and practice

We have created a *Trefoil* paradigm in education, promoting three goals as major values. These are *creative* learning, *cooperation* as a key concept in socialization and emotional and moral development of students and *initiative* as an action derivate of an internal self-determined motivation and prerequisite for leadership. We expect that these goals in education could affect and develop adequate characteristics of the individual identities and roles as an outcome in the future.

Creativity, cooperation and initiative help various nations to authentically grow along the history and across the cultures, including particular cultural specifics. The bases for these goals could also be found in the major philosophical ideas of the classical educational theories in the past; representing the roots and origins of phylogenetic as well as ontogenetic human development, supported by numerous research studies of animal behavior and infants' development and by prehistorically and historical evidences about society, science and artistic development of various civilizations. On the other hand,

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Trefoil concepts reflect the most important challenges of the modern changeable world which has to be met by providing and developing personal skills for adequate and quick adjustment of individuals, simultaneously encouraging appropriate creative development of the humanity.

In the Trefoil concepts rationalism is mixed with emotional approach and understanding, action and practice is fused with abstract thinking and imagination, cooperation is balanced with individualism since individual self-actualization has a sense only in the social context and at the same time allows development of the society potential. The concepts integrate progressive extremes tolerating ambiguity which is a crucial indicator of the creative approach. Creative play, research activities, team work, discussion, creating questions and solving open problems including the metacognitive activities all provoke and activate imaginative, divergent and critical thinking. These are also the major support and educational methods for implementing the *Trefoil* paradigm in education.

The Trefoil paradigm applies to all stages of development K-12 and further high academic and post academic period of adult education including professional practice and personal life experience. This approach to adult education also refers to the education of future teachers who firstly need to develop and poses the creative, cooperative and initiative behavior in order to promote them among the students.

We are developing this theory for the past 27 years through the set of empirical studies and nowadays by conducting an extensive four year study in Serbia in order to test the theory and provide recommendation for educational policy and practice.

During the last three decades I have tried to develop creativity and cooperation implementing play and research oriented curriculum among students between 7 and 11 of age. The four year longitudinal study was conducted in one urban, and later in one rural class. We have implemented a set of lesson plans continually across five weeks per year each spring. The topics for lessons were selected from the national program and arranged in the thematic interdisciplinary way in order to promote creative and cooperative student behavior, internal motivation and emotional expression. The teaching approach we have used in

this "experiment in class" was evaluated using qualitative and quantitative methodology, summative "pre-post and control-experimental group design" approach, as well as formative "process focused" approach.

The teaching/learning methods were different forms of play and research activities, and that was new in our traditional lecture oriented school. We used different forms of play activities in school such as multimedia, sinchretic, emphatic, paradigmatic, logical, constructive, drama oriented, visual/verbal/numerical/musical play, play which involves movement etc. Research activities consisted of defining a research goal and plan, collecting data in nature or in society – depending on the research topic, experimenting, classifying, analyzing data and finalizing the research process by a conclusion about the topic or a solution of the problem. Individual and group approach was emphasized, particularly group research and drama activities. We have addressed not only intellectual development such as divergent, problem oriented and critical thinking, but also moral, social and emotional development. Students were discussing, communicating, helping each other and developing understanding of individual feelings, potential, personality characteristics and aptitudes. We have found that we enhanced the entire child growth by rewarding creativity and cooperation and met the challenges of the new era.

This educational approach was recognized as an innovation 2008 in Serbia. At this time the 25 researchers in the Institute for educational research in Serbia, and their collaborators, are developing a "trefoil " theory (creativity, cooperation, initiative) in order to meet current social challenges of the changeable world in the 21th century. From our perspective, the initiative is seen as starting point of action or production, and represents a final step of the internal motivation oriented to solve a particular problem. This concept is rather new in psychology and still a great challenge for scientists.

PARTICIPATION AND SPECIFIC TRAITS OF MINORITY GROUPS' EDUCATION IN SERBIA: STUDENTS' PERCEPTION[43]

Dragica Pavlović Babić[44]

The paper is part of the broader regional research project, conducted in 2010, on advancing participation and representation of ethnic minority groups in education. The focus of this paper is on the students' perception of their position in the educational system of Serbia. A total of 39 mostly final grades students – minority groups' representatives from 5 different high schools in Serbia have presented their perception, in focus groups discussions, of their schooling, referring on following thematic units: 1) Participation in education and the decision making process; 2) School strategies enabling active student participation; 3) Student participation and involvement in education - possibilities and barriers; and 4) Special conditions needed for minority group students. As findings showed, students' understanding of the term "participation" is rudimentary and, above all, naïve. The mostly do not approach the resolving of their issues from the position of a role, because they are not even aware of the students' institutional options in education. They require systematic effort in order to improve their participation in the education, but it is also certain that the school could not provide them with such a support, because the school itself is unaware of the aforementioned students' institutional capacities. It should, however, be stated that in the conditions of the highly centralized educational system, neither students nor the teaching staff have many options or procedures for increasing the level of their participation in the decision making processes. As far as students are concerned, any issue of their participation can be reduced to personal activism. The position of minority group students in the Serbian educational system is seen as it has been resolved in an enough adequate manner. Also, students do not see majority group students as having a better communication with teachers and the school administration.

Key words: student' participation, educational system, minority groups, decision making

This paper is part of a larger regional research on minority groups' participation in educational systems in South East Europe and belongs a multiyear regional research and evidence-based advocacy initiative "Advancing Education Quality and Inclusion", funded by the Education Support Program of

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Open Society Institute and implemented by local research institutions in SEE countries (Pop, D. et all, 2009; Miljevic, G., ed, 2010). As the previous results has shown, schools in the SEE countries typically do not use the different parent participation possibilities which school life offers, which is especially true for the parents from vulnerable groups, such as Roma parents (Kovacs-Cerovic, T. et all., 2010). As authors concluded, schools do not recognize parents as potential resources and partners in many important areas and they do not see that cooperation with parents is in the self-interest of the schools, but they usually cut them out from decision-making on any financial or management issues. The research question inspired by these findings was to check if this conclusion is true for the minority groups' parents and students, as well.

A qualitative research (focus-group discussion) has been designed and implemented to solicit the opinions of parents, students and school stuff on the current practice in school-family communication. Foundation for the research design and development of instruments is inspired and directly derived from relevant contemporary theoretical views of parent involvement (Epstein, J. L., 2001; Sheridan, S.M., Kratocwill, T. R., 2007). A small-scale qualitative study (interviews and focus groups) was carried out between October 2009 and February 2010 in five secondary schools from the following countries Albania, Bosnia and Herzegovina, Croatia, Kosovo, Serbia. In terms of the research, each location was considered a "case study", defined as a community where there is educational provision at the secondary level for more than one ethnic group with at least one of these constituting a minority (Full report: Frost, D., et all, 2010). Sample of students in Serbia: a total of 39 mostly final grades students – minority groups' representatives from 5 different high schools in Serbia. They have presented their perception, in focus groups discussions, of their schooling, referring on following thematic units: 1) Participation in education and the decision making process; 2) School strategies enabling active student participation; 3) Student participation and involvement in education - possibilities and barriers; and 4) Special conditions needed for minority group students.

Participation in education and the decision making process

On the question how it feels to be a student these days you receive an almost unanimous answer that students position is difficult because they are burdened with numerous school obligations, with many of them having extracurricular ones as well, while teachers are extremely demanding and lack understanding for students' strenuous workload.

Students' understanding of the term "student participation" is rudimentary and, above all, naïve. They see student participation in education mostly as an opportunity to present their views to subject teachers in a more or less formal circumstances. Their understanding of this concept is so poor, that they mention school clubs or sports activities when talking about involvement. (Involvement in work, in teaching, something like that; To state our opinions as much as possible, on lesson content and so on).

It is more than evident that students lack the basic education on their own role in the education process, their rights and obligations, as well as the procedures which form the background of those rights and obligations. Also, it's up to the school to provide the conditions for making the student inclusion procedures a school life reality. In these circumstances, it seems, at least from students' viewpoint, that the issue of student participation in the school life and decision making processes has been reduced to sporadic cases when the students' vote is needed for administrative reasons. Such instances are, for example, decisions on field trips or if an incident occurs. Also, some students believe that the inclusion of students in the school decision making processes is a part of a social game with the function of making everything seem as functioning in the correct manner.

Student Parliament is the only institutional framework which students recognize as an opportunity to state their opinions. However, Parliament's position isn't clearly defined either. It seems that the students don't feel encouraged enough to get involved in the work of the Parliament in the same manner as they fail to perceive the clear effects of Parliament's activities.

Also, students agree that the concept of student involvement in school decision making processes shouldn't have a special, additional connotation in the case of minority group students, and this issue deserves additional attention.

School strategies enabling active student participation

When seeking data on student involvement in different aspects of school life, it becomes unambiguously clear that there is no real room for students in any of the segments, and that they do not participate in the making of decisions related to their schooling. They are not present at school meetings (teaching staff meetings and councils), and if they are, their presence is formal, without the option of voting; they do not participate in the making of curriculum related decisions; they do not know if they are in any manner involved in school governance or administrative issues.

The problem with school decision making processes is much more complex and goes beyond the issue of active student participation. In a centralized education system, the majority of decision making processes is removed from the school proper, so even the school staff doesn't have a lot of opportunity to make decisions on strategically important education issues, including even those related to school's everyday functioning. As far as students are concerned, any issue of their participation can be reduced to personal activism, and the school, as an institution, at least momentarily, is not designed to support, recognize and acknowledge student initiatives.

Student initiatives appear from time to time, but, according to students themselves, don't have a lot of chance for success. In any case, the school cannot count on students' individual activism to become articulate on its own. These are cultivated processes so we cannot expect efficient student initiative unless mechanisms for realization of those initiatives are not provided.

Student participation and involvement in education - possibilities and barriers

A dominant opinion is that the position of minority group students in the Serbian education system has been resolved in an appropriate and adequate manner.

The issue of language is also not perceived as a problem, even in the case of languages which are by its origin and characteristics drastically different from the official Serbian. But, none of the school have developed special forms of communication with minority students or students with difficulties in speaking Serbia and the students don't consider it necessary. Also, nobody experienced

any problems in communication with the school administration or teachers due to a possible language barrier.

No school has special forms of informing the minority group students on their specific rights. No specific materials for this group have been produced, so neither have the manners of their delivery. There are no specific activities focused on minority groups students. Teaching materials and schoolbooks, if produced in minority languages, can be used privately, but the school does not refer students to such material. it looks like the equality is implied for all interested parties in the school education process and the current practice is considered adequate, so nobody actually deals with the issue of communications advancement or the facilitation of communication in students' mother tongues.

The school is immersed in a multicultural environment, and the wider social environment potentially sends signals which emphasize differences. In the same time, some students are aware of the implicit messages emitted by the environment, including the school. Some of these messages are discriminatory. Also, students perceive life in a multicultural environment as an advantage as well, an opportunity to learn tolerance and mutual respect skills (*I'm really glad I was born in this kind of environment, because tomorrow it won't be a problem for me to accept a coworker of a different race, or different anything. While for some people any difference could be frightening. My best friends belong to a different religion; Look, I'm going to say that it does happen for people of a certain religion to have a bit of a unfair advantage. I've noticed it, I've seen it. We would have an advantage with those who are of the same religion as us. Teachers who belong to one religion will play favorites with students of the same religion*).

The school usually is not an environment which organizes intercultural events, or where such events take place, but there are such examples. This happens mostly due to local community's efforts, and it also organizes these events.

Special conditions for minority groups students

Students do not see other students (i.e. majority group members) as having a better communication with teachers and the school administration. If

there is any discord between the students and the school, it is not defined on this basis.

Even we try to bring the issue of higher participation of majority groups into focus through questions, it remains elusive. The basic issues students are facing are linked to everyday school life and a close educational future – issues of learning, obligations and grades; issues of balancing different obligations and lacking time for leisure; issues related to deciding on a university and the entrance exams… Also, they do not really have good experiences with trying to deliver their opinion to teachers and/or school principals and/or other school administration staff. In other words, even when students are aware of things burdening them, they are not familiar with the ways in which they could articulate their suggestions and put them into action.

The suggestions on how to provide the students with the opportunity to participate more in their education are in line with the basic finding. The majority of suggestions reflect a more than considerable need of students for the school to become a place where relevant, meaningful content is learned in a meaningful and interesting way. They have very modest ambitions in relation to changes of school practice, they just wish for the teaching process to break the mould, and for the students to have access to activities which imply a higher level of autonomy, while the question of minority groups' participation in education is, somehow, put aside.

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Using the socio-cultural psychology as a tool for new understandings

FROM DEPENDENCE TO INDEPENDENCE: A SOCIOCULTURAL ACCOUNT OF FAMILY MONEY PRACTICES[45]

Sarah Crafter[46]
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Guida de Abreu
Tony Cline

The aim of this theoretical paper is to refine our thinking around the meanings and roles of family money practices in child development. Money plays a ubiquitous role in human relationships, is a symbolic system which has meaning and a past history within families, communities and societies. Family relationships and societal representations are a key context within which money practices are constructed and developed (e.g. earning, purchasing, sharing, giving, incurring debt, saving). We propose that transitions from childhood and adolescence to adulthood are linked to family money practices via diverse cultural stories of dependence and independence. Individuals are not considered a fully independent adult without the financial means to support themselves. This is because money is not just a cognitive tool but also something that has profound social meaning. Money practices in society and in families are not neutral but influence when and how adults think children should be learning about finance and consumerism. Ideas around current developmental norms feeds into and links with children's emotional well-being. Children's early learning about the status of money as a symbolic token that comes in many forms is well understood in developmental psychology, but that tradition of research has largely failed to take account of the ways in which money is embedded in complex sociocultural spaces. Money can have intense emotional associations with conflict and guilt and people's ideas about money are influenced by the past experiences and histories of families and communities. How are diverse experiences of money practices impacting on children and young people's development in a society that is increasingly socially and culturally diverse?

Keywords: Money practices, sociocultural theory, mediation, symbolic resources

Introduction

Money plays a ubiquitous role in the lives of families and academic research has focused in a variety of areas of concern. Consumer specialists have

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addressed the growing economic power children hold within the family (Doss, Marlowe & Godwin, 1995), developmental psychologists have traditionally focused on cognitive approaches to money (Furnham& Argyle, 2008; Berti&Bombi, 1988) and on economic socialization through understanding societal representations of money (Duveen, 1994). We are using this paper to refine our theoretical thinking about money as a sociocultural practice within families. In doing so we shift thinking away from individualistic approaches to money, as a cognitive tool, to a sociocultural approach addressing money practices as having profound social meaning. We will argue that when looking at money as a sociocultural practice that has significant and varied meanings, it is useful to use these money practices as a lens to study cultural diversity in family settings. We will argue that the meanings and uses of money vary across and within cultural contexts which are also linked to the symbolic meanings of money and the history of families (Falicov, 2001).

The sociocultural meaning of money

When we talk about money practices we refer to the kinds of *things that people do*, their actions, as they relate to their social and cultural contexts (see Goodnow, Miller &Kessel, 1995). This approach is derived from earlier work on cultural practice which allows for practices to become packaged with values and actions which form part of a community identity. Although money may be seen as individual and impersonal when looked at as a purely economic/financial mechanism (Yamamoto & Takahashi, 2007), at the level of everyday human relationships money takes on a set of complex social and cultural meanings. When taking into account cultural diversity, money is seen as a symbolic cultural tool that is mediated by human relationships.

From a sociocultural perspective there are a complex set of social meanings attached to family money practices. What families do with money, the values placed around money use, how they negotiate money and expenditure with their children, why they make those decisions, are influenced by diverse social and cultural family settings which mediate how money is practiced. In a paper looking at the cultural meanings of money Falicov (2001) focuses on some community differences between Anglo-Americans and Latinos to make a similar

point. In many White, post-industrial families discussions about money are taboo and often kept private among adult members of the immediate family and completely away from children (Romo, 2011). On the other hand Falicov (2001) argues that in Latino communities money that is earned is often shared with the extended family. Financial transactions like spending and borrowing are most likely to involve extended family and friends within the community. This might include children giving money to parents to help support the household. The idea proposed by Zelizer (1985) that children in postindustrial societies are economically "worthless" but emotionally "priceless" may not apply in culturally diverse families. Immigrant children and adolescents sometimes need to make a monetary contribution to the household (O'Dell et al. 2006; Valenzuela, 1999). In contrast, a study with a predominantly White American sample of earning parents cultural values centered around concealing or protecting children from family finance (Romo, 2011). For these parents, children should be protected from money concerns so that they could enjoy a carefree childhood. Any discussions around money revolved around how to save or use money wisely as a preparation for adult life.

A more common cultural money practice in many nations and communities is parents giving pocket money to their children. Studies have shown, however, that social meanings attached to pocket money are diverse. When asked 'whose money is it?' Pian et al. (2006) found that Japanese children were more likely to consider pocket money their own than Korean or Chinese children. For Korean children pocket money was still a shared family resource. The giving of gifts, favors and loans were a key part of family life. Korean children and their parents also valued gift giving to friends an important cultural money practice (Pian et al.,2006).

Money and transitional childhoods: dependence to autonomy

We argue in this paper that money has an ever-present role in human relationships, particularly within families and communities. Within mainstream British culture the use and negotiation of money in families is influenced by parental views on the transition from dependence to independence in childhood, which for middle class English families involves an individualist approach to

money. For example, in a study by Furnham (2001) 90% of parents thought they should start giving pocket money at 6.5 years of age and this arbitrary age was based on broad representational ideas about childhood. For other families money may be shared and practices are interdependent. The sense of economic agency during childhood and adolescence may itself be subject to cultural variation. A key aspect of parents' roles in preparing children for adult life is to help them to learn money related practices. The preparation for adult life also entails the child being inducted into particular culturally specific ideas about the obligations, responsibilities and entitlements of family members. Within the mainstream British context, young people are often depicted as avid consumers for whom having the 'right' material objects is linked to identity and social inclusion (Croghan, Griffin, Hunter & Phoenix, 2006). The assumption is that the parents' role is to mediate these demands at the same time as teaching young people how to manage pocket money. Research on newly immigrant families in the USA show a different construction of responsibilities within families in which children are active agents in their families' everyday activities including helping parents apply for credit cards, apply for jobs and buy/rent a house (Valenzuela 1999). Similar practices were also observed in a study with immigrant families in England (Abreu & Hale, 2011).

Work on transitions can provide some theoretical understanding of the preparation for adult life which entails the child being inducted into particular culturally specific ideas about the obligations, responsibilities and entitlements of family members. Transitions can be understood as a change or transformation that repositions the person (Zittoun, 2008) in relation to their context or other people in that context. Transitional change can come in a number of forms such as lateral transitions like the move from one school to another (Beach, 1999) or meditational transitions whereby an activity inducts the individual into something yet to be fully experienced (Beach, 1999). Steadily increasing financial responsibility, as a child ages, would be an example of a meditational transition. Money practices can form the mechanism or lens around which families structure increasing responsibility and independence for their children (Romo, 2011). However, when to increase money responsibility and what motivates parents' decisions is mediated by culturally diverse family practices. Japanese parents, for example, tended to cite educational reasons for giving children pocket money because they felt it was important for their children to

learn how to use it. Korean and Chinese parents, in contrast, spoke more about practical uses of money for expenses (Yamamoto & Takahashi, 2007).

Children are socialized early on in some kind of exchange/spend system e.g. buying of sweets or trading of objects (e.g. collectors' cards) in the playground from a young age (Cram & Ng, 1999). Even at this young age it is possible for children to be active agents in their financial socialization and the exchange of money for household chores is one example of a transitional experience towards autonomy which many families in mainstream British culture are familiar with (Doss, Marlow & Godwin, 1995). However, in contexts where there has been increasing migration and families are culturally diverse, how childhood is understood influences how money is viewed within families. In some families the treatment of money can express a collective family culture and so even when it is distributed to family members the responsibility for it and decisions about what to do with it remain collective (Pian et al 2006). In others, for example in a mainstream British context, the treatment of money may symbolically express an individualised culture in which family members become responsible for their 'own' money. In this case the task of parents is to prepare children so that they can manage their individual financial responsibilities well in the future (Falicov, 2001).

Money as a cultural and symbolic mediator

While viewing money within economic terms as instrumental and market-driven, evidence from a psychological approach suggests money is symbolic, emotional (Gasiorowska, Zaleskiewiecz & Wygrab, 2012) and linked to power (Furnham, Wilson & Telford, 2012). We have used the term 'money practices' purposefully to demonstrate our understanding of money as a symbolic cultural tool which serves to mediate relationships in families and in society. Our perspective of money as a symbolic cultural tool is born out of Vygotksian (1978) work around cultural tools elaborated on within the last 20 years (Cole, 1996) and further developed more recently as the notion of symbolic resources (Zittoun, 1997). Symbolic resources bridge the inner psychological world with a shared meaningful reality. Money is a symbolic object in that there is a concrete piece

of paper, metal or plastic to hold but its value is symbolic and requires some use of the imagination.

Money can be symbolically manifested through possessions (e.g. clothes, jewellery, etc…) which are managed by adults. Handling possessions/money in the real-world for children arguably always incorporates the intentions, needs, opinions of others, which can change with age and the structure of the life-world. Religion and politics are also said to play a role in parents' decisions about pocket money (Furnham & Argyle, 1998). How this is played out in culturally diverse family settings is under-research and little understood.

Summarizing thoughts

We have argued here that money is a useful lens through which to study practices within culturally diverse family settings. Money practices include our actions (what we do) but also a complex variety of social meanings. Using a sociocultural perspective we have examined the social meanings of money and the transitions from dependence to independence by addressing representations of child development and the role of money as a symbolic mediator. Bearing those points in mind, we recognize that money practices are embedded in and influenced by everyday contextual changes (Sato 2011), changing family structures, immigration, historical and inter-generational practices (Yamamoto & Takahashi, 2007). Contextual changes can also refer to age-related changes and the re-negotiation that occurs within families as the child grows older and becomes more independent. These ideas are in turn linked to particular cultural norms within the family or community.

As a consequence parent/child/family/extended family/community/friendship relationships are a central feature of money practices. Money, like everyday items and possessions, can act as symbolic mediators of the relationships between parents and their children. Money practices can therefore become an arena in which conflict, guilt, status and power are expressed - and perhaps also a key area in which developing identities are negotiated.
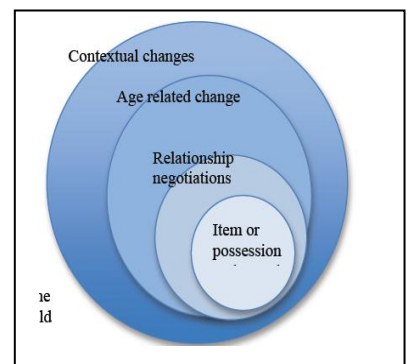
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SCHOOL BULLYING FROM A SOCIOCULTURAL PERSPECTIVE[47]

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Sarah Crafter

School bullying is an important concern for children, parents, schools and policy makers and it has received a huge amount of research and media interest. Whilst there is growing knowledge obtained from empirical work about the nature, extent and effects of bullying, there are areas of complexity in the findings. We propose that one of the issues with bullying research is a lack of emphasis on the theoretical underpinnings which might go some way to explain these complexities. In this paper we will develop our thinking on the phenomenon of bullying using a sociocultural theoretical framework. In order to explicate this, we will provide a review of existing literature on school bullying around five main themes: 1) The problem of defining bullying; 2) The relational aspects of bullying 3) Evolution of bullying with cultural shifts 4) Bullying as a normalised practice; and 5) Bullying as part of someone's life trajectory. We will review some empirical findings to highlight key issues, and present arguments from relevant sociocultural theories which could add insight in each case. We will also show how varying strands of research into bullying can be integrated together through adopting a sociocultural approach and provide explanations for findings identified in research literature. In the course of our paper, we will draw on three theoretical frameworks in order to justify and support our premise that bullying needs to be viewed in relation to social, cultural and historical factors: (i) Bronfenbrenner's ecological model (1979); (ii) Community of Practice (Wenger, 1998); and (iii) the concept of leading activities (Beach, 1995). We will conclude by suggesting some implications for practice which arise from taking a sociocultural view of bullying.

Keywords: bullying; school; peer group; sociocultural;

Whilst there has been a proliferation of empirical research into bullying in schools, we argue that an increased focus on providing a coherent theoretical underpinning to integrate and explain research findings would be beneficial. We feel that sociocultural approaches have much to offer in this respect. We will argue in this paper that an integrative approach, using sociocultural theorising, provides a useful foundation for exploring bullying in context. Sociocultural approaches allow bullying to be examined through studying people's engagement in various cultural contexts (Vygotsky, 1978). Cultural contexts (such as family; schools; social groups) each have their own histories, social

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norms and conventions which have been established over time and are reproduced through participation of members (Wenger, 1998).

In this paper we draw on a range of empirical work that has investigated various facets of bullying to illustrate how sociocultural perspectives can assist in understanding findings. To conclude, we will propose some implications for addressing bullying in schools which emerge from this analysis.

Themes in the literature

The problem of defining bullying

The concept of bullying is difficult to pin down. Although there is general agreement in academic literature that bullying involves repeated aggressive behavior directed towards someone with less power, with the intention of causing them hurt or distress (Rigby & Smith, 2011), research has shown that this view is not necessarily shared by pupils and teachers (Naylor, Cowie, Cossin, de Bettencourt, & Lemme, 2006) which suggests that there are a variety of meanings surrounding bullying in different contexts. Wenger's Communities of Practice (1998) framework provides a useful basis for understanding how varied meanings can be understood and addressed. According to Wenger (1998), individuals are part of various Communities of Practice, each of having their own norms, practices, rituals, and histories (Wenger, 1998). A child, for example, will be part of their family community, peer group community, age group community and school community (amongst others). In each case, bullying will have particular meanings for the community, developed through past experiences and a negotiation of social rules and conventions, and bullying will therefore be interpreted differently.

The relational aspects of bullying

Traditional perceptions of bullying usually focus on the bully-victim dyad. However, when approaching bullying using a sociocultural framework, we can view bullying as part of a continuum of interpersonal relationships, where

peer group members assume different roles at different times. For example, research shows that bullying can occur within friendship groups (Wei & Jonson-Reid, 2011), highlighting that the prosocial behavior associated with friendship can coexist with aggressive behavior associated with bullying. Also, studying children's behavior during incidents illustrates that bullying is a community-based behavior involving the peer group as a whole. Incidents tend to occur in social situations in front of witnesses, and research has identified particular participant roles which can be occupied by bystanders in the bullying process (such as encouraging; defending or ignoring, Salmivalli, 2009). The participant role that group members adopt is due to the interplay between individuals and their social environment (Salmivalli, 2009). This resonates with sociocultural perspectives because individuals are participants in various social and cultural contexts. Relationships within communities are complex, and participants will have different roles and responsibilities. In peer groups, the existence of participant roles in bullying situations, and bullying between friends, can be explained by existing practices operating within the group (such as norms around collective negative action towards others).

Evolution of bullying with cultural shifts

Sociocultural theorizing focuses on changeability over time, and the nature of bullying has not remained static. As society has changed and developed, new forms of bullying have been identified. For example, the explosion of internet use as a form of communication has lead to a specific form of bullying, 'cyber bullying', being created. Cyber bullying is now widely understood and researched (e.g. Li, 2007). If we view human development as contextual, we can understand these trends in light of the changing environment and how this impacts on the individual. Bronfenbrenner's Ecological System (1979) approach is useful here by describing the multiple settings in which an individual interacts. These settings are conceptualized in a hierarchy, with individual's immediate setting (such as family and school) being closest to them, and higher level wider contexts (such as media, and dominant societal ideologies) being further away. Using this model we can see how changes at a macro level (such as technological shifts in society) could impact on an individual's experience at school and with their peers (through the phenomenon of cyber bullying).

Bullying as a normalized practice

Bronfenbrenner's model can also be used to consider how the various settings interacting with a child might influence their engagement in bullying behaviors. In settings where bullying behavior is normalized, individuals are more likely to internalize these behaviors as ways of relating. For example, children are powerfully influenced by their peers, and bullying intentions have been found to be higher in groups who had a strong norm of disliking out-groups (Nesdale, Durkin, Maass, Kiesner, & Griffiths, 2008). If we adopt a sociocultural viewpoint to interpret this, peer groups can be seen as individual Communities of Practice (Wenger, 1998), each with their own norms and rituals. Therefore, bullying will be more common in peer groups where aggression and dominance are normalized.

Similarly, the culture of the school exerts a strong link with the amount of bullying that occurs (Cowie, 2011). A school as a 'Community of Practice' (Wenger, 1998) with norms around aggression, competitiveness and authority will be more likely to breed bullying between its members. This mirrors discussions about the importance of establishing a positive 'school ethos' (e.g. DfE, 2012) to promote prosocial behavior and mutual respect.

Bronfenbrenner's model also refers to settings which individuals do not participate in directly, but which still have an influence on their development, such as the mass media. Research by Coyne and Archer (2004) showed that indirect aggression was portrayed frequently in popular television programmes, and was often justified and rewarded. If certain forms of aggression are normalized through their frequent portrayal on television, it can create a societal norm of interaction which influences individuals' behavior.

Bullying as part of someone's life trajectory

There are two issues that are important to discuss here. The first is that bullying is more likely to occur to children who display particular identity characteristics, and the second is that the experience of bullying has the potential to shape future life trajectories. In relation to the first point, research shows that certain characteristics of a child make it more likely that they will become involved in bullying (either as bully or victim) (e.g. Muñoz, Qualter, & Padgett,

2011). When looked at through the Ecological System (Bronfenbrenner, 1979) the child's individual characteristics interact with the wider contexts in which they participate. Therefore, an individual's vulnerability to bullying, based on aspects of their character, is more likely to become played out in contexts where bullying is common, accepted or normalized.

In terms of future trajectories, it appears that bullying leaves a 'mark' on the individual, and shapes their ongoing life course, both in terms of their self-perceptions, and ways of relating to others (Hawker & Boulton, 2000). The notion of 'leading activities' (Beach, 1995) is helpful here for understanding how particular experiences can have more significance than others in terms of future trajectories (Beach, 1995). Bullying has historical significance as a societal activity (in terms of the attention it gets) and if someone is bullied at a significant period in their development, the experience may be particularly profound for them, and shape future experiences.

Implications and conclusions

Bullying is contextual, based on situated relationships between individuals operating within various communities, each with their own norms and practices. The multiple settings in which individuals interact mutually creates their behavior, attitudes and social relationships.

For bullying intervention, sociocultural perspectives force us to move our attention away from the bully-victim dyad, and focus more on the contextual influences that surround the behavior. This involves assigning greater responsibility to others with whom children interact, and challenging community–based norms which may normalize certain forms of aggressive behaviors or interactive styles. Literature on bullying intervention has consistently favored whole-school approaches with outside involvement (e.g. Cowie & Jennifer, 2008), and the most effective school-based interventions are those which adopt approaches operating at a whole-school level, classroom level, and individual level, whilst also involving parents and the wider community (Cowie, 2011).

In conclusion, we argue that "bullying needs to be seen embedded within the culture of the organization where it is taking place and in order to reduce its

prevalence, we need to focus on changing the system rather than the individuals within it" (Monks et al., 2009, p154).

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DIVERSE VALUES: IDENTITY DEVELOPMENT AS A SOCIOCULTURAL INDICATOR OF 'SUCCESS' IN AN EDUCATIONAL PRACTICE

Jane Hughes[49]

It is acknowledged that student study experiences, prior to entering higher education (HE), have a subsequent effect on a student's HE study experiences, learning and performance (Prosser and Trigwell 1999; Ramsden 2003; Vermunt 2005). This study was a study of academic accountancy as it explored the performance of postgraduate accountancy students, on Accounting for Managers (AFM). AFM was a core (mandatory) accountancy module studied as part of a generic business studies postgraduate degree at an UK university.

The study focused on the learning trajectory (prior experiences, engagement in HE practice *and* future ambitions) of HE students, exploring their experience of academic accountancy, in a classroom setting where teaching guided by 'cognitive apprenticeship' (Collins et al.1991) aimed to provide a bridge between a 'teaching curriculum' and a 'learning curriculum' (Lave and Wenger 1991: 97). A learning curriculum is the social practice in which newcomers experience and negotiate meaning as they participate and engage in situated activities, which arise as 'opportunities', the everyday activities that participants – accountants, for example – might encounter. In contrast, a teaching curriculum is 'constructed for the use of newcomers' and involves a structured learning process, designed by a teacher (Lave and Wenger 1991: 97). In a teaching curriculum, the experience of learning is a second hand experience, having already been negotiated by the teacher (Lave and Wenger 1991: 99).

Collins et al. (1991) define 'cognitive apprenticeship' (CA) as an 'instructional paradigm for teaching', which may be appropriate when teaching a 'fairly complex task to students' (1991: 45). Using a teaching approach, guided by CA, is appropriate in an HE accountancy classroom because the teacher wants to share an understanding about a professional practice and establish a

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'community of inquiry' that 'thinks like accountants'. Teacher-led strategies such as modelling, scaffolding, coaching, exploration, articulation and reflection, not only enable a way of thinking to be experienced, but also facilitate activity and interaction between teacher and students and between students.

The motivation for this study arose from a general observation that AFM students with a higher-level (HL) prior qualification (that is, an upper second-class degree classification (UK) or higher at undergraduate level) performed better, seen in examination results, than those with a lower level (LL) prior qualification (that is, a lower second-class degree classification (UK) or lower at undergraduate level). This was regardless of whether those with a HL prior qualification had previous academic accountancy experience or not. In exploring this observation, this study took a sociocultural perspective in investigating AFM student performance as a response to the AFM 'practice' with which students engaged (Wenger 1998). The exploration of students' learning trajectories to find evidence of both student responses to the 'practice' and the 'practice' itself, takes an alternative approach to that of, for example, Vermunt (2005). Vermunt's study investigated the interaction of a variety of contextual and other factors, including prior education, on student academic performance, within different disciplines, with an emphasis on the interaction of these factors. This study explored an academic accountancy educational practice and the student experience as they engaged in the 'practice'.

Exploring an educational 'practice', that is a set of educational activities, events and objects that are situated in a discipline (such as accountancy, in this study), identifies this study with the situated view of learning of Lave and Wenger (1991).The idea of a community of students in the classroom, taking active, agentive roles in solving complex business problems, guided by a teacher, reflects the 'apprenticeship' studies presented by Lave and Wenger (1991: 62). While HEresearch (UK universities) refers to the sociocultural perspective of Lave and Wenger (1991) (for example, McCune and Hounsell 2005: 257; Entwistle 2005: 75; Anderson and Hounsell 2007: 471), the overall stance in HE research situated within UK universities tends towards constructivism, rather than socio-culturalism. 'Constructive alignment' (Biggs and Tang 2007:52) is a key theme. For example, Anderson and Hounsell (2007: 474) show how pedagogic activities, which engage students in the practice of

'thinking' within the discipline, are part of this process of alignment. The emphasis is on students acquiring knowledge and learning actions appropriate to the discipline, or HE practice, in which they engage, in order to assist acculturation into an HE discipline. In contrast, a sociocultural view of an educational practice sees students becoming enculturated in a practice, that is, taking on an identity, as they become a member of, in this study, an academic accountancy practice. This research views an individual's engagement in an educational 'practice' (classes, textbooks, activities, assessment) as transformative, so that what a person learns to 'become' in the practice is evidence of 'what is learned'; 'identity is a form of competence' (Wenger: 1998: 153).

From a sociocultural perspective, learning takes place regardless of the situation and, so, in an educational institution, there is no failure to learn, only a failure to learn what the teacher intended (Lave 2009: 206). Individuals are engaged in the 'practice of learning' (Lave 2009: 201), whether they are situated in an HE accountancy classroom or in an accountancy profession, outside HE. That students come to focus on the 'wrong' aspects in their HE studies has been noted by others, in investigations of how students respond to assessment (Becker et al. 1968; Miller and Parlett 1974; Entwistle and Entwistle 1991) and the description of the strategic approach to learning. A strategic approach to learning has been explained in terms of student study methods, aimed at achievement (passing an examination), rather than coming to understand discipline content (Entwistle and Entwistle1991: 208). The sociocultural framework used in this study for analysing the AFM educational practice aimed to explain why HE students behave as they do (Turner and Patrick 2005: 24).

The sociocultural perspective that Anderson and Day (2005) use to explore the 'mediation' (in relation to the teacher's role) in the mediated learning, which characterises HE practice , is equally relevant for investigating students' varied responses to the 'mediation'. That is, how HE students view and come to value their studies, as they engage in the social practice of HE. Lave and Wenger (1991: 112) contrast the 'use value' of what is learnt, whereby learning contributes to becoming a 'knowledgeable person' in a practice, with the 'exchange value' of what is learnt, whereby learning is exchanged for a 'reward', which in an educational setting, might be examination success.

Exploring the self-perceived 'value' of student learning is a way to explore student response to the discipline - specific practice.

This study explored the learning trajectories, of AFM students, using the 'community of practice' model of Wenger (1998). Sfard and Prusak (2005) argue for identity development (a learning trajectory) as being indicative of individual transformation, so that 'identity-building' (the 'construction of identities' noted by Lave and Wenger (1991: 53) is a way of explaining how students experience their AFM studies. The concept of identity, to explore how individuals engage in an HE educational practice, has been used to explore the variety of different undergraduate learning responses (Tonso 2007) and the transition from undergraduate to postgraduate studies (Tobell et al. 2010). Scheja and Pettersson (2010:236) explore a similar transformation in HE, in relation to threshold concepts in calculus, in their study of the 'contextualisation of subject matter', noting how students' conceptions changed as the context changed. The interrelationship of conceptualisation, occurring within the individual, and context, used by Scheja and Pettersson (2010) as a way of exploring discipline-specific learning, shares some features of a 'situated learning', or sociocultural view of learning (Lave and Wenger 1991). A sociocultural view argues that 'learning involves the whole person' and the person's response to the system of 'activities, tasks and functions' both transforms and defines the person, (Lave and Wenger 1991: 53)

While Sfard and Prusak's evidence arises in a high school setting, we see how the transformation of the person is evidence of what is learnt (Sfard and Prusak 2005: 19). Another way to make sense of identity formation is to consider different 'modes of belonging' (Wenger 1998: 173). Wenger identifies three 'modes', which are also ways of learning: *engagement; imagination; alignment* (Wenger 1998: 271; 275). They are distinct and while one mode can be identified without the others being present, they complement each other and indicate the level of 'belonging', or competence, in the practice. Solomon (2007) used the three modes of belonging to show how gender differences arose in HE mathematics learning and ways of participation in a mathematics educational practice.

We might see the sense of belonging seen in *engagement* evidenced when an HE postgraduate accountancy student (Philip) studying with the intent of becoming a qualified professional accountant after his postgraduate studies,

wants to share his understanding with others. He becomes active in the classroom, taking on the role of 'teacher' in helping other students. This is a way for him to enact being an accountant, giving advice to others. *Imagination* is not just about how we see ourselves now but what our vision of self is for the future. Philip's view of self is an HE student, studying to become an accountant; he has a view beyond the classroom. *Alignment* is the coordination of our actions to 'fit' within a 'broader enterprise' (Wenger 1998: 174; 186). Philip sees why the HE examination assessment is necessary (it gives him the accreditation to meet his career goals) and how the class activities, communicated in the lectures or in textbooks, contribute to mastery of accountancy techniques.

This study used individual student learning trajectories to explore the relationship between AFM student prior experiences, future ambitions and HE study experiences, in order to assess how students made sense of their AFM studies. This study of individual learning trajectories was able to provide some further explanation of the different performance outcomes of students with different HE prior qualifications.

Methodology and methods

This study of student responses to seminar teaching guided by CA took place over six twelve-week semesters, in an UK HE institution. AFM students attended a weekly lecture and seminar (non-mandatory). Assessment comprised a piece of group coursework and an end of semester examination. This study, using individual learning trajectories to explore pass rate outcomes, used the examination mark, rather than the group coursework, as an indicator of individual student 'success'. As seminars, with teaching guided by CA, focused on the examination assessment (see below), the relationship between seminar activities, student perceptions of and responses to seminar activities and examination outcomes was the area of initial focus.

Quantitative data (n = 345), to test the original observation of performance comprised pass rates and prior qualification levels. Only students with a complete prior qualification record were included in the study. Qualitative data comprised two types: 'practice' data and 'narrative' data. In-depth semi-structured interviews with students, before and after the examination,

provided 'first-person narrative' data, following Sfard and Prusak (2005). Interviews were taped, transcribed and analysed to identify common themes, drawing on the 'modes of belonging' (Wenger 1998: 173). 'Practice' data, following Wenger (1998), came from observing students in the seminar classes (video and audio recordings), students' examination answers, revision and class notes. 'Narrative data' presented below is shown with an identifying letter, allocated to interviewees, and the timing of the interview: BE (before examination) or AE (after examination). 'Practice data' presented below is shown by the source, e.g., 'class video'. The explanation of the student learning trajectory and identity development used both 'narrative' and 'practice' data; the one being used to corroborate the other. This reduced the bias arising from the self-report nature of the interviews, for which students volunteered. For example, F. talks about his experience in the seminars:

> *Several times I was at the point where I just couldn't go further – it was a 'black art', it was too complicated for me [...] at such points I had to ask someone otherwise I would just sit there and spend my time, 5, 10 or 15 minutes go and I haven't done anything, I haven't learnt anything (F, BE)*

In class, F's body language suggests he is 'lost'. Fsits hunched over the paper on his desk, but does not write or use a calculator and puts his head in his hands. Eventually, F turns to another student to talk (class video; practice data). His class notes show how he starts an activity and then leaves the page blank (student notes; practice data).

Fifty students volunteered and attended for an initial interview, with nine of these students able to return for a further interview after their examination. Case study students (five of which are presented in this study) were those for whom a full range of data was available and were selected to represent a range of experience and qualifications. What students became as they engaged in the AFM practice, their individual negotiation of identity, showed their response to their AFM study experiences and reflected their prior experiences and future expectations. Imagination can be seen in how a student imagined themselves using AFM, not just in their current postgraduate studies but also for their own future (career) development ('images of possibilities' (Wenger 1998: 174)). Student H is clear about how he might use AFM later on:

I want to be able to understand the financial position of a company […] because I'm not becoming an accountant or anything but, I want to know where I would need to look if I wanted to know how well a business or a project was sitting. (H, BE,).

Alignment was seen in how a student saw the AFM practice as relevant or as being of value to them, whether in terms of career progression or personal development:

So it is very interesting to me – it (AFM) is something I think I am definitely going to use later in life, so I just have this personal interest in the subject. So that's how I enjoy it more and that's why I am very confident in it. (P, BE).

Engagement was shown in how a student participated in the AFM practice: for example, how a student responded to class activities, seen in their behaviour, or in their study strategies, that is, the class note-taking or out-of-class revision activities that students see as most appropriate for the AFM practice. R described her view of AFM seminar activities as being:

about calculating and you have to have each step, step by step or you don't get a result in your answer. (R, BE)

R's emphasis on accountancy procedures (she suggests she needs to follow a process) was both indicative of her view of what was required for individual success in AFM and of the AFM practice itself. Knowing something 'step by step' is R's view of what is valued in the AFM practice. This study's qualitative focus, albeit on a narrow student sample, offered the opportunity to explore student responses to an HE discipline-specific educational practice in detail.

Learning in the AFM practice

In interviews (narrative data) and classroom behaviour (practice data), AFM research seminar students demonstrated the importance of the AFM examination to their studies. Accountancy appropriate *study –strategies* were a key part of what was to be 'learnt'. AFM seminar activities (solving accountancy problems) were viewed as examination preparation:

[…] we are doing exam questions and if we try to solve them, it makes us better prepared for the exams (O, BE)

We do exam type questions and that makes it not such a shock when you see it in the exam (G, BE)

This view of the seminar activities, as examination preparation, narrowed the focus of students and limited the implementation of seminar teaching guided by CA, as the following classroom interchange between student and the teacher shows. The teacher attempts to locate the class activity in a wider managerial arena but is 'driven' to focus on the examination by student response:

Teacher: (speaking to class). Can we just finish off this part? And then we can think about whether, as managers, we like this way of costing, or not?

Student: Can I just ask you something… you know this sort of question, when we have this sort of question in the exam[…] What happens if I don't know how to do it in the correct way or exactly similar to this or I make a mistake? Will I get some marks for that?

Teacher: Yes, you will. If you look at past papers, at the relevant cost question on the paper, it follows this format quite closely

Student: …because, the layout… the way you lay it out, I don't know the layout….(fades away)

Teacher: the way you lay it out? Well, it's important, but you can follow the layout as it is here (points to example on whiteboard). We go in columns, we pick up each item from the question, decide on the relevant cost element and put it here. (Class video and audio)

Other 'narrative' data confirmed the importance of the 'process', as students described what they saw as necessary for individual AFM success:

I think it's very much about layout and if you have a layout in your mind of that – like ABC (Activity-based costing, an accounting technique) – you can have a table – with a 'process stage' you can go through and then it's much harder to go wrong and (helps) if you're not really sure how you're going to get to the answer. (D, AE)

The 'lay-out', 'the process' and knowing it 'step by step' were common narrative terms, as students described how they planned their revision and, in later interviews, reflected on their success, or otherwise. Student S views the AFM practice as one that rewards knowing the process of the exercise. The 'key' to AFM success is:

> *practising.. I think the ideal position is to get in the exam when it's like automatic... doing the exercises... you don't have to think about it ...so practising is the best, in this sort of subject, when you have to do exercises. (S, BE)*

What was 'learnt', then, appeared to be *how* to do the accounting activities (exercises) and student 'engagement in the practice' (Wenger 1998: 174) was driven by the processes of accountancy, perceived by students as a necessary requirement for success in the AFM 'examination practice'.

Pass mark results

Table 1 shows AFM students, for whom AFM performance results were collected, categorised by prior HE qualification (HL or LL) and prior academic accountancy experience: AA signifying academic accountancy experience and NAA no academic accountancy experience.

The results confirm the original observation that, in this sample, HL students outperform LL students (Table 1).In this sample of AFM students, prior qualifications had a stronger effect on examination pass rates (chi squared = 15.24, df = 2, p<0.001) than academic accountancy experience (chi squared = 4.95, df = 2, p < 0.10). The level of prior HE qualifications had a significant effect on AFM examination outcomes.

Table 1. AFM students by category and pass rates

AFM student category	Total in category (%)	AFM pass rates (% of students in category passing the examination)	Case study student, in category, whose learning trajectory is explored below
HL AA	10.72 %	84%	Student K
HL NAA	19.42 %	69%	Student E
LL AA	22.32 %	58%	Student J
LL NAA	47.54 %	48%	Students F and P
Total	100.00 %		

Table 2. Student learning trajectories: 'successful study-strategist and 'professional manager' identities

`	The 'problem' with AFM	Academic accountancy experience	HL or LL prior qualification	Career ambition	Identity development associated with 'successful study-strategist' identity	Identity development associated with 'professional manager' identity	AFM exam. mark
E	'Why do I need to know this (AFM)?'	NAA	HL	Charity project manager	Clearly developed	Not clearly developed Tries to put AFM into charity management context: 'I couldn't quite put [AFM] into everyday sense – and I sort of gave up.'	71%
K	'Managing my time' (studies for other professional accountancy qualifications as well as postgraduate degree.)	AA	HL	Accounting business manager	Clearly developed	Clearly developed: acts as 'class consultant'	73%
F	Finding the 'logical way of thinking'.	NAA	LL	Not clear; cannot decide at present	Not clearly developed; focuses on accounting theory	Not clearly developed 'You just gain practical skills, which could be useful in the future.'	47%

J	There is no problem: 'I enjoyed it, actually'.	AA.	LL	Professional accountant	Not clearly developed; focuses on 'understanding'	Partially developed: stated by J but no evidence in class behaviour (as seen in K)	51%
P	'it kind of helps if you have worked somewhere before, something related to accounting […]'	NAA	LL	Management consultant	Clearly developed	Clearly developed: imagines using accountancy techniques in professional life	90%

Becoming a successful AFM student

What the cases (students K, E, J, F and P) presented here 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'. Table 3 presents a summary of the case study students' responses to AFM and their associated identity development. The 'study-strategist' identity was a response to the AFM 'examination practice' procedural requirement for study and revision skills. AFM 'learning' was, as the student cases below show, tempered by their unique prior experiences and future ambitions, or even lack of ambition, which helped them to develop (or not) a full or partial 'professional manager' identity, in relation to AFM.

> *'Professional manager' identity: finding the 'use value' (Lave and Wenger 1991:112)*

Students K and P use their prior study and work experiences, as well as their career ambitions to make sense of their AFM studies. In the classroom, K's behaviour is that of a confident student; she acts as a 'classroom consultant', an advisor or coach, to other students who need help. This fits with her ambition of

becoming an accounting business manager, who organises others; her motivation:

> *when someone asks you, then you feel good that you might know something (laughs a lot) ... like you are helping them.[...] you feel more confident (laughing, still) you feel appreciated. (K, BE)*

P takes a different approach to K, using his experience of work before his postgraduate studies (and his aim of becoming a management consultant) to make sense of his AFM studies:

> *I have dealt with these problems before when I used to work in my family business and so I always used to look at it, ok, suppose this was given to me, should I invest in it or not? And I always have that [idea] in my head and my father's looking at me, "Let's see how well you do in this?" It did help me. (P, AE)*

E's experience of AFM is very different:

> *[AFM] doesn't make much sense to me. It's something I'm not familiar with, I haven't done maths for a long time, [...]. The reason I'm here doing this (degree) is to further my skill and knowledge to further my career – how is this (AFM) going to do that for me? (E, BE)*

E never arrives at a satisfactory answer to her question. Instead, she focuses on developing AFM appropriate study-strategies.

> *Developing a 'successful study-strategist' identity: finding an 'exchange value' (Lave and Wenger 1991: 112)*

E's description of how she prepares for the calculation examination questions illustrates her 'organisational strategy', as E calls it:

> *so when it came to the ratios (calculations) I knew what my three columns had to look like, I knew almost how many words were going to be going in each bit and it was just a process of remembering what words went where, and for the ratios, which ratios went where.[...]*

For the ratios, I literally had a stopwatch and just gave myself 20 minutes and everyday just sat there and did it 3 times a day until it was just so I could do it in my sleep. (E, AE)

Unlike student E, J, who wants to become a professional accountant, assumes that his understanding and his comfort with accounting are sufficient to become successful in the examination. J has an:

accounting and audit background, I was expecting to excel in this course… (J, email) and when he gets his module result:

I was disappointed actually because I was expecting better results because I found the paper to be quite reasonably ok and it wasn't too difficult, and I felt comfortable with it but I don't know what happened – I was surprised to see my results. (J, AE)

'What happened' for J is that he did not appreciate the need to become successful in AFM appropriate study strategies. J's study approach lacks the focus of E's 'organisational strategy':

Interviewer: Did you practise answering a question in forty-five minutes?

J: Timing myself? No, I did not - that put me down probably in the exam because I did not practise the time management. (J, AE)

Like J, F is unable to develop an 'organisational strategy' in his AFM studies. F's lack of enjoyment is clear:

This part (AFM) was not really, was not a pleasure for me actually, I'm not interested in maximising profit. (F, AE)

F chooses to focus on the concepts and theory of accountancy, to find a 'logical way' of making sense of the calculations, rather than develop a way of coping with the AFM calculations, as E does:

actually I read and prepared only the one third of the module which I had to explain to my classmates and actually they explained to me their parts and we had something like mind maps where all the theory was summarised (F, AE)

F's focus on understanding the 'theory' is not what the 'examination practice' requires. Developing an 'organisational strategy'was necessary for AFM examination success (Table 2). The AFM 'examination practice' rewarded the use of accounting-appropriate study strategies (engagement in the practice), which E and J show. However combining study strategies with other modes (imagination and alignment), as P shows, brings success too, which lifts P's examination mark above the level of other LL students.

The modes of belonging: engagement, alignment and imagination, in student learning trajectories.

Coming to 'see the relevance' of AFM to a professional manager outside the HE world is a key distinguishing feature between E and P.Developing a 'professional manager' identity helps P become successful in his AFM studies. E develops an identity as a 'successful study-strategist', seeing study strategies for the AFM topics as the most important activities to undertake to become successful. Student E is quite correct in this approach as the AFM 'examination practice' rewards this approach. E, with no previous accountancy experience, achieves a distinction level mark in the AFM examination mark.

> *I'm definitely not a management accountant, by any means. […] but when it comes to passing exams I know roughly what an examiner is looking for and the technique to get that onto the paper, I think. (E, AE)*

E's learning experiences on AFM do not offer her the opportunities to find this 'professional' relevance, as she has no past experience to draw on and no future relevance to align with. Perhaps studying AFM can be a different experience for E if she experiences the kind of activity that P creates for himself. He imagines himself using AFM in a professional management capacity, which appears to help him to a conceptual understanding of AFM:

> *For example, if I am a manager or if I am a CEO (Chief Executive Officer) of a company and if I have to invest into something and it's my money, what would I look into. So, I critique it in that way (P, AE)*

The modes of belonging (ways of learning) as a means of analysing student identity show the complexity in learning, highlighting how students

combined different modes in a learning trajectory or remained located in a trajectory which focused on one mode (Table 3. below). Seeing the relevance, the 'use value' (Lave and Wenger 1991: 112) was a contributory factor in propelling students along their AFM learning trajectory and contributed to how they negotiated meaning on AFM. While engaging in the AFM 'examination practice' was necessary for AFM 'success', two students (P and K) combined other modes of belonging in developing elements of a 'professional manager' identity, in relation to AFM. In contrast, J, despite his ambition to become a professional accountant, does not see the need for AFM study-strategies and his examination success is at a lower level, Table 3 below.

Table 3. Case study students' learning trajectories.

Case study student	Learning trajectories on AFM. Modes of belonging: engagement, alignment, imagination
E	E fails to develop a sense of how she can use AFM in her professional life (imagination mode of belonging) and is not in sympathy with the accountancy aims of AFM (alignment mode of belonging); she resorts to using study strategies in order to be successful on AFM (engagement in practice). Her ambition is clear: to succeed on AFM in order to improve her career, although she cannot relate the concepts of AFM to this career.
F	F concentrates on understanding the theory (concepts), rather than the accounting processes. F's engagement in practice (study strategies) come about (they are only partially developed) as a result of revising theories. The modes of imagination and alignment are not present. His overall ambition is unclear.
K	K's career aim to work in an accounting-associated professional business area (imagination mode of belonging) and her enjoyment in AFM (alignment mode of belonging) are combined with her recognition of the AFM 'examination practice' and the AFM accountancy procedures (engagement in practice).
J	J thinks he knows how to study on AFM but he does not see the need for study skills and revision/examination strategies. Although he may be aligned with the accountancy aspect of AFM and see its relevance for his future 'professional life', he does not show alignment or imagination in either behaviour (as K does in class) or narrative (as P describes in his interview). His lack of engagement in the AFM 'examination practice' means that he does not know what to do to succeed in the AFM examination.
P	P has a clear vision of how AFM will be useful to him in his future 'professional life' (mode of imagination). It is fun, 'not scary' and accessible. He uses his experience in his family business and enjoyment of AFM (mode of alignment) in combination with his imagined use of AFM to make sense of the AFM procedures (engagement in practice). In this way, he combines engagement in practices with imagination and alignment.

Further discussion and implications

There were varied ways of making AFM relevant, seen in these case study students' different and individual learning trajectories. The student cases show how the learning trajectories were a response to the AFM practice, suggesting that student development and progress requires consideration of, not only the mode of engagement in the HE practice, but also, the modes of imagination and alignment. Other studies have shown the diversity of HE students, particularly with regard to prior experiences, which pose pedagogic challenges as students become acculturated to the HE practice (Brennan and Osborne 2008; Vermunt 2005). The student cases in this study show this diversity, not just with regard to prior experiences but also, in relation to future ambitions and career expectations. Both prior experiences and future ambitions played a part in how academic accountancy was experienced in AFM studies.

Others have noted the 'tension' (Entwistle and Entwistle 1991: 208) or 'conflict' (Miller and Parlett 1974: 67) that can occur in a student when attempting to reconcile assessment requirements with 'learning'. The 'tension' results in the use of study strategies aimed at passing the examination, rather than 'knowing' accountancy. This exploration of student learning trajectories shows how the use of study strategies was a response to both the AFM practice (an 'examination practice') and the different ways in which students found (or not) the 'use value' of their AFM studies in the modes of imagination and alignment. Perhaps ensuring that AFM class activities provoked 'constructive alignment' (Biggs and Tang 2007:52) would help student E to a more conceptual understanding, but this would still be focusing on 'engagement in practices', how to study in this discipline, just one of Wenger's modes of belonging. The absence of the modes of imagination and alignment in E's learning trajectory would not be addressed. E needs to see the 'use value' of AFM for a future professional life, so that 'meaning-making' in AFM contributes to the development of her 'professional manager' identity. This lack of the means by which she can develop a 'professional manager' identity and find a 'use value', in relation to AFM, is a major obstacle for her in coming to know much about accountancy.

Without further evidence, from a wider range of AFM students, it cannot be claimed that being a 'study-strategist' (like E) contributes to the greater success achieved by students with HL prior qualifications, but it does appear a

possibility. E, herself, utilised study-strategies acquired in undergraduate studies. P's combination of the modes of imagination and alignment ('professional manager' identity) with engagement in the practice of AFM ('study-strategist 'identity) offers him a chance to find a 'use value' in AFM (and greater examination success than E). The diverse values developed in individual ways by these AFM students in response to the 'examination practice' experienced showed differences arising from how students made sense of their AFM studies in the context of their prior experiences and, in particular, their future ambitions. An awareness of a developing professional manager identity was a distinguishing element, in a similar way to the gender differences highlighted in mathematics HE identity development (Solomon 2007).

Developing a vision of a future professional manager identity appears an important part of learning in this discipline, accountancy, itself located within the wider subject area of business studies. In this research, Wenger's concept of identity gives further insight into the 'ways of thinking and practising' (McCune and Hounsell 2005) in HE. The discussion of 'use value' versus 'exchange value' (Lave and Wenger 1991: 112) appears relevant for HE practitioners working within the variety of business study disciplines, including accountancy, with a mission to equip students for a 'professional life'. The resulting pedagogic challenge appears to be to offer students academic accountancy experiences, which take account of and assist them in finding the 'use value', rather than the 'exchange value' in their HE studies.

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CULTURAL STRUCTURING OF ACADEMIC DISCOURSE WITHIN THE FRAMEWORK OF INTERNATIONAL STUDENTS CONFERENCES

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Students' international conferences present a complex of extracurricular activities closely interrelated with the knowledge acquired and competences formed (including the professional communication competency) in the course of academic curricular disciplines. As such, they are seen as both a means of, and a millieu for supporting interdisciplinary ties in the university programs, as different fields and methods of research and learning are combined in the effort of exchanging ideas with the help of a common code – a language non-native for most conference participants, which requires the ability to communicate all the nuances and facet of perception in this language. The communication competency is exposed in the ability to take part in the peculiar type of discourse which both bears the features of special professional rhetoric, and displays the general features of academic communication. The linguistic component in the vocational education and training system is acquiring growing importance due to global mobility development and the general intellectual scope characterizing students as growing professionals today. While conferences in general make up the environment where specific competences are combined with generic competences, students' international conferences in particular provide the space for both knowledge construction, and instruction, and should be treated as a specific form of academic extracurricular activities based on the seamless tolerant dialogue of knowledge, languages and cultures, resulting in professionally related and socially significant competencies which are generated, tailored and activated. The analysis of cultural structuring of academic discourse in a special context of students international conferences indicates certain vulnerable points in the process of exchange and dissemination of ideas and innovations presented by young professionals.

Key-words: academic discourse, international conferences, vocational competencies, cultural interaction, tolerance, flexibility

Academic discourse is seen as statutory restricted intercourse created with the help of both linguistic and extra-linguistic means, and presented with a certain system of vocationally-oriented symbols assigned for and interpreted within the culturally specific environment of academia with the purpose of disseminating, exchanging and developing knowledge.

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Students' international conferences present a complex type of academic extracurricular activities closely interrelated with the knowledge and competences formed in the course of study of academic curricular disciplines, including the communication competency. As such, they are seen as an environment for supporting interdisciplinary ties in the university programs when different fields and methods of research are combined on the basis of foreign language communication competency. The latter is exposed in the ability to take part in the peculiar type of discourse which both bears the features of special professional discourse, and displays the general features of academic rhetoric. Discourse investigation is based upon different factors of social, cultural and psychological nature. Academic rhetoric is a multilateral sphere of interaction especially vulnerable to social, cultural and psychological effects.

From different approaches to the academic discourse analyses (rhetoric peculiarities in different cultures; discourse among foreign language speakers with native speakers; foreign language communication between non-native speakers from different cultures; etc) we have chosen the comparison of academic discourse structuring in different cultures **when a foreign language is spoken by all the communicating parties**. Hopefully the results of the research will contribute to recommendations how to follow the mutually (or generally) acceptable rules in the academic debate sphere, so that to stimulate students' international contacts in research.

Keeping to the general (or at least, mutual) acceptability lines makes the core of the verbal communication process. In this respect the emphasis is put on what a personality, society and culture add to the language functioning as a means of cross-cultural communication.

The upper priority is the context of verbal communication, which is closely connected with the polysemy of linguistic signs. The form used within the relevant context marks some meanings supported by this context,   others being cut off (Hymes, 1995).

There are three dimensions of discourse: 1) linguistic (the language proper); 2) epistemological (thinking and information transmission); 3) interactive (situation-dependent verbal communication). From the lingvocultural angle of vision it is relevant to define what culture the subjects of the discourse

belong to and correspondingly how the cultural standards and values influence the instantation of all the discourse components.

There are two vectors of the analysis: from cultural phenomena to their linguistic manifestation, and from actual wording and structuring to the corresponding cultural basis.

Following H.P.Grice's maxima of Cooperation, we emphasize the most important feature of academic speech bound to create the cooperative effect – accuracy, or rather exactness, of terms and precision of structural models. Being informatively condensed, academic discourse follows different patterns in low-context and high-context cultures.

The peculiarities of the Russian linguistic culture include inferences, implicated information (implicatures), multiple deviations from the subject of discussion, abundance of allusions and backoffs – all of which combined to result in comprehensive description, or in-depth argument presentation. English, on the contrary, is perceived as linear, consecutive, enjoying optimal verbal expression of all propositions. (We follow here the data supplied by R.Kaplan in "Cultural Thought Patterns in Intercultural education // Language Learning. 1966. – No 16. – P. 1-20). As soon as cultures interact the effect on the language of communication becomes obvious.

One of the standard forms of academic discourse is essay writing. We have compared the results of essay writing technique investigation provided by M.Clyne (Anglo-speaking cultures) and G.A.Yelizarova (Russian-speaking cultures). Similar to Grice, the touchstone here is pertinence (i.e. keeping up to the point) a quality essay is characterized by. Neither repetitions, nor deviations are recommended. All this is compatible with Clyne's linearity principle. Linguistically it is reflected in the following characteristics:

o texts are propositionally symmetrical, i.e. individual propositions are logically and sequentially interconnected, as much as they are relevant to the generalizing proposition;
o the English-language discourse disposes of the organizing markers, referring to the text structuring, the argumentation, all of which makes the text predictable;
o the terms are supplied with definitions and this is done in advance;

o all examples, references and statistics are reliable and are introduced into the discourse consecutively.

Compared to the above mentioned, the English-language essays by Russian students are characterized by

o propositional asymmetry of the texts, with some propositions being separated from the general proposition, as much as disconnected between themselves, abundant in deviations, dilatations, completions; text parts being installed within each other, permeated with speculations on irrelevant subjects;
o casual character of narration, with the plan missing;
o lack of definitions of terms, the meaning of the latter are taken as going without saying;
o references are often missing.

The explanation of the differences is based, following M.Clyne, on cultural parameters. Of prior concern is content and form juxtaposition. Form is priority by low-context Anglo-lingual culture, with all relevant discourse elements verbalized and unequivocal, connections between them being unambiguous. In anglolingual cultures formal aspects dominate the discourse structuring and evaluation.

Opposite to that, Russian lingua-culture is high-context, with all the consequences. Contents orientation results in asserting that information is priority, little attention paid to the reliability of the information source.

This is closely connected with the distribution of responsibility between the addresser and the addressee for the text comprehension and avoidance of disruptions in discourse. Anglolingual cultures are inclined to hold the addresser responsible for any possible failure, committing the addresser to produce addressee-friendly texts, while in Russian culture the addressee is recognized responsible for misunderstanding, and it's the addressee's fault or lack of intelligence/competence if the information is missed.

Individualism *vs* Collectivism parameters find numerous manifestations in academic discourse, one of such being I *vs* we attribution to investigation descriptions. From the analysis of students' research works it is evident that "I" dominates the academic discourse in anglolingual cultures, while Russian culture prefers "we"-reference, which is based upon the relations of the research-work author with the epistemological aspect, as well as upon the values

of responsibility and independence in different cultures. In this respect it is also possible to refer to the indication of commitment, complicacy, indifference, modesty, self-evaluation, arrogance, etc.

All this is demonstrated both by written texts, and by oral discourse, being often a barrier to adequate communication.

To reach the positive result of the cross-cultural communication process, the interlocutors should overcome certain obstacles on the basis of cultural literacy and reach the level of cultural tolerance and flexibility at which the communication companion is treated as a partner instead of an alien. Another resource to more efficient communication is understanding of cross-cultural contributions to the context-dependent discourse dynamics.

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