Studying interaction in different contexts:
A qualitative view

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Foreword

Dragica Pavlović Babić

The Institute of Psychology has already had many occasions to publish research monographs and proceedings. However, this book is a special one, since it is the first, hopefully not the only one that is entirely based on qualitative methodology.

As a Director of the Institute of Psychology at the University of Belgrade and a university professor many times I have been involved in heated and unproductive discussions about purpose and relevancy of the qualitative approach in the studies of children's learning and development. I assume that many of you who have been attracted by this book had the opportunity to witness similar kind of discussions. It could be said that many general "pro and contra" statements produced within such discussions are, from my perspective, misleading because they create the impression that the researcher can only choose to be either for or against the qualitative approach. In my opinion, the qualitative research in the field of developmental and educational psychology is necessary in order to account for the complexity of human interaction in different contexts. Therefore, the key question is not whether or not to use the qualitative methodology, but *when, why, and how certain kind of qualitative methods* should be used. Moreover, I am convinced that a fruitful debate about these questions needs to be situated within a specific research study having in mind its theoretical background and research questions, and not at some general, abstract level.

The book in your hands illustrates such understanding in a profound way. Papers presented in this book explore in a contextualized way the use of the conversational and discursive approaches in the analysis of social interaction between different

partners (adult-child, child–child, teacher–students, experimenter–participants) when participants are faced with specific kinds of challenge in certain settings. The book concerns different contexts and social situations analyzed through qualitative methods that attribute a great relevance to communicative and dialogical dimensions of children's learning and development. In this way, every chapter of the book provides an inspirational case of *when, why, and how* the conversational and discursive approaches can be used as tools for the production of new knowledge.

I find this book relevant also because it offers additional research findings that shed light on complex dynamic relationships between social interaction and children's learning and development. The long tradition of research studying this issue will be completed by this collection of papers looking at the relationships through the lens of qualitative approaches.

For all reasons mentioned above, the book presented here is a valuable resource for researchers and students in order to better understand how conversational and discursive practices are embedded in every social activity among adults and children.

The book is the result of the collaborative international project of the Institute of Psychology at the University of Belgrade. The project has been realized during 2010 and 2011 with the support of the Fund for an Open Society (Serbia). As a Director of the Institute that organized meetings and collaboration of researchers involved in the project, I am truly honored to present and recommend this work that has been conceived and grounded on methodological and epistemological questions raised by different researchers in the domain of psychology and education.

Introduction

Nevena Buđevac, Francesco Arcidiacono & Aleksandar Baucal

Social interaction is an inevitable part of our everyday lives. Starting from the beginning of our life we are permanently immersed in the social world, thus our personal development is shaped by interaction with people around us. As the interaction infuses all aspects of our lives, it is not surprising that the field of social interaction studies is rich and very heterogeneous, with the long tradition.

Studying interaction in different contexts: A qualitative view is a result as well as a contribution to this diversity. Its project takes place at the crossroads of different lines of research, such as the neo-Piagetian and neo-Vygotskian approaches of collaborative interactions within goal-directed activities and the traditional and recent advances of discursive studies that call the researchers' attention to alternative modes of considering conversations as *processes* within everyday interactions. The rising interest for qualitative views in socio-cultural approaches is actually producing new analytical frameworks that can help psychologists and educational scientists to better understand how central conversation is at different levels of the social life and in various contexts.

The role of conversation and dialogues in social interaction has been the object of research during the last decades and it has produced a series of findings that are basic for the understanding of what, how and why happens during social interactions among people. However, we think that a stronger focus of qualitative view within the field of studies traditionally labelled as "social interaction research" can contribute to understand better to what

extent children's capacity to interact and to (re)create meanings in collective learning contexts is also a product of their discursive co-construction of sense making within the interaction with partners. By proposing this book, we would like to contribute to the implementation of research designs that take into account the complexity and the richness of children's and adults' contributions during various types of interaction. The papers presented in this book are thus a way to create a promising space of theoretical and methodological debate around the relation between learning, discussing, debating, and confronting in educational contexts.

The book is a collection of studies with a focus on different aspects of social interaction, taking place in different contexts and analyzed from different theoretical and methodological perspectives. What assembles the presented studies is the aim to study in a deeper way the dynamics and trajectories of social interaction and their impact on learning and development through the analysis of their qualitative aspects. The book is conceived to be a useful tool for researchers that aim at analyzing different interactional situations under the lens of qualitative approaches and aiming at highlighting the relevance of conversational and discursive processes that shape the relationships among people. This is the major topic that convinced us to explore the possibility of reflecting around different studies developed within the field of developmental and education psychology. In particular, within this book, the relevance of qualitative studies in understanding the role of conversation within interaction follows two complementary positions: the possibility to consider the conversation as the focus of research and the idea that conversation can be assumed as an instrument for studying learning and development of children.

Structure of the book

Studying interaction in different contexts: A qualitative view presents five empirical studies of social interaction. Before that, in chapter 1 *Doing qualitative research: The analysis of talk-in-interaction* we introduce the topic of verbal interaction as an object of scientific research, presenting techniques and epistemological approaches aimed at understanding actions accomplished by participants within communication process. The focus is on research in which the role of talk-in-interaction appears prominent in the study of processes of con-construction of meanings and shared activities in the everyday contexts of interaction. Conversational and discursive approaches are thus presented as possible ways to account for the qualitative aspects of different types of interaction.

Following the line of research aimed at investigating the social interaction as a factor that can influence development of individual cognitive skills, in chapter 2 *Asymmetrical peer interaction and formal operational thinking: What happens in dialogues between peers in unsuccessful dyads?* Ivana Stepanović and Aleksandar Baucal examine the role of asymmetrical peer interaction in the children's development of formal operational thinking. Their special is directed toward understanding the factors leading to the regression of a partner with the lower competencies. The dynamics of unsuccessful dyads interacting in a problem solving activity is presented and analyzed under the lens of conversational characteristics related to the regression of students with lower competences.

Investigating also peer interaction, but focusing on symmetrical peer interaction, Nevena Buđevac explores in chapter 3 *"I'll accept, but next time you'll have to listen to me!" How seven-year-olds read together* the dynamic of the dialogue, trying to find and describe different trajectories of negotiation process within which children's initially different ideas converge to the joint one. The relevance of conversational and discursive elements

is discussed with respect to the specific activity of discussing about written texts among children.

Following a similar research line with the focus on the negotiation process among peers, Smiljana Jošić addresses in chapter 4 *How group decision making decreases risk taking in 10 years old children* the topic of decision making in ten years old children. Her interest is directed toward factors that can influence a group decision making, directing some children to accept group decision which is less risky than they have made by themselves.

In chapter 5 *"What do you mean by that?" How personal meanings are developed and constructed in literature classes at upper secondary level* Jelena Radišić focuses on conversational acts made by teachers in literature classes. She presents a research developed with the goal to understand in which ways teachers' acts can influence the process of building interpretations of literary works by students.

Finally, in chapter 6 *Turn-taking at the age of one: A longitudinal case study* Mirjana Mandić investigates the mother-child interaction at an early age, focusing on the turn-taking development. Her effort is directed toward studying child's various actions, interpreted by the mother as communicative, regardless of the child's communicative intents.

At the end, we close the book by discussing all the presented findings in the chapter 7 *Reflecting on different views of social interaction: Explanatory and analytic perspectives*. The aim of this final paper is the analysis of those findings according to the main research paradigms within the field of social interaction studies. The implications of the qualitative view adopted along the studies presented in the book and the perspectives of such type of approaches are discussed in the light of developmental and educational research fields.

Acknowledgments

Chapter 1

Doing qualitative research: The analysis of talk-in-interaction[1]

Francesco Arcidiacono, Aleksandar Baucal & Nevena Buđevac

As psychological phenomena are systemic, dynamic, and social, there is a need of different methods that may embody various conceptions of the nature of the object we study. Snyder (1995) has suggested that a successful combination of methods can depend on different factors and research being underpinned by a theoretical framework that is sensitive and flexible for understanding the complexity of the object. Thus, a research strategy integrating methods is likely to produce better results in terms of quality and scope since different methods enable insights into different aspects of complex and dynamic psychological phenomena. In addition, it encourages us to come up with creative alternatives to traditional or more monolithic ways to conceive and implement research. These options are an important effort to be reflexive and more critical about the research practice and, ideally, more useful and accountable to broader audiences (Arcidiacono & De Gregorio, 2008).

In this chapter we focus on research in which the role of talk-in-interaction is prominent since other chapters employ this approach in order to study the process of co-construction of meanings and shared activities in a variety of contexts. For this reason, we present and discuss some general aspects of the qualitative approaches implied in discursive and conversational

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studies. In particular, we focus on social situations in which the analysis of the verbal interaction requires techniques and epistemological approaches to account in detail what people do during conversations. Within this framework, the Conversation Analysis and the Discourse Analysis (hereafter CA and DA) are assumed as two possible ways to account for the interaction among people in everyday social activities. Basic concepts in studying conversations, main steps in collecting, transcribing, and analyzing data are presented in this chapter as well. Our idea is to present different possibilities to proceed in qualitative research approaches involving the detailed analysis of verbal interactions between children and between adults and children. This qualitative view takes into account a double perspective: the conversation as the focus of the investigation in psychological and educational research, as well as the analysis of dialogues as a way to study more specific psychosocial processes of everyday interactions (Mercer, 2010).

Co-construction and verbal interactions as resources for research approaches

The analysis of children's/adults' everyday activities in different contexts has been a useful practice in order to explore, especially through the observation of verbal interactions, the "mind in culture" (Bruner, 1987) or the "culture in mind" (Valsiner, 2007). Studies on socialization and co-construction of meanings and activities in different settings have highlighted several relevant aspects that are powerful resources for the qualitative analysis of the interaction among children and adults. Some aspects seem to us particularly relevant in taking this perspective. Firstly, co-construction can imply coordination, cooperation, and collaboration across participants: in this sense socialization is an interactional process; secondly, participation in social interaction is a resource for novices to appropriate socially

constructed patterns of communication and activities, thus participation is both a means and an end of socialization; finally, the interactional structuring of socialization is socially and culturally organized. As Jacoby and Ochs (1995) have clearly said, "*we refer to co-construction as the joint creation of a form, interpretation, stance, action, activity, identity, institution, skill, ideology, emotion, or other culturally meaningful reality*" (p. 171).

Within a co-constructive approach, language is not only an instrument of communication, but also one of the objects and aims of the socialization process. The attention to the qualitative analysis of conversational sequences based on an idiographic and interpretative approach, as well as the nomothetic method, strongly contributes to discover some social properties of discourses as social activities. For this reason, we consider the study of conversations as a privileged modality to investigate how people co-construct the meaning of their interactions and involve themselves into the processes of socialization. The study of conversation "*represents a general approach to the analysis of the social action which can be applied to an extremely varied array of topics and problems*" (Heritage, 1984, p. 291). Based on the concepts developed in ethnomethodology (Garfinkel, 1967), social interactions and conversations are not considered as a given set of data, but as a continuous process of becoming. People continuously participate in interactive negotiations within which the social life is (re)defined (Duranti, 1992) and conversation analysts have applied the traditional methodology of ethnography to everyday life activities, studying "*social life in situ, in the most ordinary of settings, examining the most routine, everyday, naturally occurring activities in their concrete details*" (Psathas, 1995, pp. 1-2). Actions are accomplished and understood by participants because they are filling in common-sense understandings entailed in the situation at hand. This activity of "sense-making" is thus an interactional affair.

For researchers who embrace sociocultural theoretical framework acknowledging the interactional root of higher psychic functions (Vygotskij, 1934/1962; Lurija, 1976; Leont'ev, 1977) and conceiving human development as a progressive mastering of participation in sociocultural activities and appropriation of cultural tools (Rogoff & Lave, 1984; Rogoff, 1990; Cole, 1996), the exploration of development and learning in their spontaneous contextual occurring constitutes one of the most intriguing and challenging enterprises. In this approach, development and learning are not seen as taking place within individual minds but rather as processes of improving participation in interactional activities (Resnick et al., 1991). Within sociocultural perspective, a special attention is devoted to the semiotic and other symbolic tools people use in accomplishing cognitive activities as these cultural resources not only facilitate, but always shape the unfolding of the same activities (Wertsch, 1985; Zittoun, 2006). A crucial role is thus attributed to language because the role of language cannot be separated from the overall sociocultural knowledge. As suggested by different analyses of educational contexts (Lucariello & Nelson, 1987; Ochs et al., 1992; Orsolini & Pontecorvo, 1992; Pontecorvo & Fasulo, 1997; Pontecorvo & Arcidiacono, 2010; Arcidiacono & Gastaldi, 2011), linguistic knowledge is embedded in sociocultural knowledge, and at the same time, values, rules, and concepts are appropriated and reproduced through language and communication. Language and its effects cannot be considered deterministically preordained by the exclusive properties of linguistic structures or by assumed constructs of individual competence and knowledge, but the opportunity to share the responsibility among interlocutors for the creation of sequential coherence, identities, and meaning is an important element of co-construction within interaction.

We are strongly convinced that the qualitative study of discourse is not a minor subfield of the human sciences. In fact, it could be "*a key locus for the analysis of the discursive practices, cognitive operations and social phenomena through which*

human beings constitute together the endogenous worlds that they inhabit" (Goodwin, 1996, p. 398). As language and meaning emerge as collaborative and interactional creations (Boden, 1994), we consider conversational and discursive analyses as powerful tools for a cultural and communicative approach that offers means adequate to the presentation and explanation of human behaviour and its development.

Conversational and discursive approaches

The approaches of Conversation Analysis (Sacks et al., 1974) and Discourse Analysis (Edwards et al., 1992; Antaki, 1994) aim at analyzing conversations in their actual contexts, in order to identify the sequential patterns of discourse produced by participants. These approaches try to assume the participants' own perspective, in order to explore the structure of expressions used in conversation (such as words, sounds, movements), as well as the structure of meanings (overall topic, organization in talk, local patterns of coherence in the sequence, implication, assumptions).

In particular, conversational analysts have developed the idea of analyzing the language in interaction as a social organization that is based on some formal properties. Their aim has been to examine the conversational turns and sequences of talk in real-life situations, taking into account the context as a relevant issue for participants. As suggested by Schegloff (1987), "*a notion like 'context' will have to remain substantively contentless, and uncommitted to any prespecified referent and be instead 'programmatically relevant' (that is) relevant in principle, but with a sense always to-be-discovered rather than given-to-be-applied*" (p. 112). As we do things with our words, they are not inert representations of social action, but they are rather actions designed for the "here-and-now" of their production (Wooffitt, 2005). In fact, CA "*describes methods people use in doing social*

life [and shows] *the detailed ways in which actual, naturally occurring social activities occur and are subjectable to formal description*" (Sacks, 1984, p. 21). In particular, analysts recognize the existence of two levels of organization in conversation: the first one acts on a local basis, turn by turn, in the alternation of speaking turns, because "*the system deals with single transitions at a time in comprehensive, exclusive, and serial fashion*" (Goodwin, 1981, p. 21); the second level considers the conversation as a whole, and as a unit with a beginning and an end. CA claims that the analysis of conversational exchanges should begin without any a priori assumptions about the data at hand, in order to discover the order that is realized through participants' communicative competencies, and which in turn should be demonstrably relevant to the participants. Although this account has been criticized (Billig, 1999), it is important to point out that CA does not intend to analyze interaction in the participant's own term, but it does seek to offer accounts of action which are warranted by reference to the ways in which participants display what they take to be relevant to their on-going interaction (Schegloff, 1999).

In continuity with CA, Discourse Analysis has highlighted the relevance of accounts and flexibility in studying language as activity that can invoke psychological states as social practices (Edwards & Middleton, 1986; Potter & Wetherell, 1995). The main claims of DA concern the fact that language is used for a variety of functions and its use has a multiplicity of consequences, as well as the fact that language is both constructed and constructive. Within this approach, the research questions come from observations on features exhibited by data, and the sense of social actions is analyzed through the participants' use of practical reasoning skills and competencies. This approach also implies an accusation of triviality in the sense that the analyses are considered as potential starting points for social sciences and they can address core issues in a way distinctive to their own epistemological and methodological orientations.

Most of the data analyzed in CA and DA are the results of a similar series of phases: getting on making recordings of natural interactions; transcribing the tapes; analyzing selected episodes; and accounting for detailed aspects. All these phases are linked in a "spiralling fashion" because they cannot be strictly separated. A main concern of these approaches is the possibility to treat data that have been audio- and/or video-recorded. This aspect is not without challenges: the general recommendation for making recordings of data is that these should catch interactions as fully and faithfully as is practically possible. However, the activity of recording is a selection of a "reality", the possibility to catch a portion of the situation that is at stake at a certain point of an activity, within a determined space and time. Thus, audio- and/or video-recorded data have to be considered as *capta* that permit to account for specific and situated episodes of the interactions played by social actors. Other specific aspects of CA and DA are the attention to the system of turn-taking and the speaker's selection. In fact, conversation is regulated by a turn-taking system that allows for minimal gap/minimal overlap and by procedures for the turn shifts (such as processes of self-selection/other-selection). The emphasis on the semantic organization of sequences is thus an alternative to other approaches, such as the speech act theory that is focused on the analysis of utterances and sentences in isolation (Levinson, 1983). However, the whole context and situation under investigation must not be lost in favor of a fragmented view of the interactional activity that participants show during their exchanges.

All these aspects require a strong effort in the implementation of an accurate methodology and in the evolution of every phase in the research activity. In order to illustrate some of these steps, we present two methodological concerns that seem to us particularly relevant in the qualitative analysis of verbal interactions.

Methodological aspects: Transcribing data

In this section we present more specifically the transcription as the main baseline for the analysis of recorded interactions. Basically, a transcription aims to write down not only what has been said, but also how it has been said in the course of the interaction. As highlighted by Heritage and Atkinson (1984), "*the transcripts result from and represent an attempt to get as much as possible of the actual sound and sequential positioning of talk onto the page, while at the same time making this material accessible to readers unfamiliar with systems further removed from standard orthography*" (p. 12). The transcription can be considered as a "translation" of the actually produced speech into a version of the standardized language of a particular community (e.g. a group of researchers). However, no transcription system is perfect since it represents the results of a series of compromises between heterogeneous considerations. In fact, transcriptions are selective, "theory-laden" renderings of certain aspects of what the tape has preserved of the original interaction.

As the transcriptions are the researcher's data, the connection between the analysis and the transcription activity concerns the fact that the format of a transcript influences the interpretative process carried out by the reader. Ideally, by a transcript the researcher intends to meet practical as well as theoretical consideration: the transcripts must express the relation between non-verbal and verbal behaviour as accurately as possible. Heritage and Atkinson (1984) have suggested that "*conversation analysts do not claim that the transcription system captures the details of a tape recording in all its particulars, or that a transcription should (or even could) be viewed as a literal representation of, or observationally adequate substitute for, the data under analysis. Like all transcription systems, the one used* [in CA and DA] *is necessary selective* [...] *and indeed this system is particularly concerned with capturing the sequential features of talk*" (p. 12). The process of transcription is an important tool

providing the researcher with an understanding of, and an insight into, the participants' conduct. It is a way to notice and discover particular events and their socio-interactional organization (Heath & Luff, 1993). In this sense, it could be considered as the first step of the analytical process.

In this chapter we are referring to the transcription method elaborated by Jefferson (2004) which attempts to really capture the talk as it is heard by participants. It is a vertical system in the sense that the utterances of different speakers are printed one below the other following the order in which they were uttered. Although extremely time-consuming, it is a necessary tool for performing an adequate interactional analysis. Even if the analysis is concerned with features of lexical content, the full transcript would most fully allow claims to be checked by other researchers (Ochs, 1979), potentially aimed by other goals of research.

This system of transcription includes a series of symbols accounting for turns organization, non lexical sounds and other elements. Here, we include a list of the most common symbols used in CA and DA and the description of their significance. For symbols and transcripts the fonts "Courier" or "Courier New" are usually employed as they are a mono-spaced fonts allowing to easily align different turns of talk. Names and other identifying details of the participants and/or situation are usually changed in order to ensure anonymity.

Transcription symbols

[ ]   <u>Overlapping</u>: the left bracket indicates the point of overlap onset

example:
```
1. A:   how are [you?
2. B:           [I'm ok.
```

The right bracket indicates the point at which two overlapping utterances end, if they end simultaneously, or the point at which one of them ends in the course of the other

	example:	1. A:	how [are] you John?
		2. B:	[how]
=	Latching: it indicates no break or gap between the end of a prior and the start of a next piece of talk. Two equal signs, one at the end of one line and one at the beginning of the next, indicate no break between the two lines		
	example:	1. A:	yes, I'll do it=
		2. B:	=yes!
(2.0)	Pauses: number in parenthesis indicates elapsed time in seconds		
	example:	1. A:	I think that (3.0) that it is not possible
(.)	Micro-pauses: it indicates pauses less than 0.2 seconds		
	example:	1. A:	ehi (.) what about Mike?
mhm	Backchannelling		
	example:	1. A:	I was thinking that- mhm, maybe we can try
.h	Inhalation		
	example:	1. A:	and .h I'm sure .h I'll do it!
h.	Aspiration		
	example:	1. A:	finally, you- you are here. h.
.	Falling intonation		
	example:	1. A:	look, there is no possibility to discuss.
?	Rising intonation		
	example:	1. A:	are you sure?
!	Exclaiming intonation		
	example:	1. A:	she is here, excellent!
,	Continuing intonation		
	example:	1. A:	I have a nice car, a good job, a great family,

–	<u>Abrupt cut-off</u>: the dash indicates a cut-off of the utterance

example: `1. A:   because I get- I get sick`

:	<u>Prolonging of sound</u>: colons indicate prolongation of the immediate prior sound. The longer the colon row, the longer the prolongation

example: `1. A:   it's all here?`
            `2. B:   yes::::::`

_	<u>Stressed syllable</u>: the underscore indicates a stress of a word or a part of it

example: `1. A:   I want that one`

ABC	<u>High tone</u>: upper case indicates loud sounds relative to the surrounding talk

example: `1. A:   YOU SILLY!`

((abc))	<u>Double parentheses</u>: it indicates comments added by the transcriber in order to clarify some elements of the situation

example: `1. A:   I want this ((pointing at the`
                        `book))`

(abc)	<u>Single pairs of parentheses</u>: it indicates that the transcriber is not sure about the words contained therein

( )	<u>Empty parentheses</u>: it indicates non-transcribing segment of talk

example: `1. A:   I think that this (    ) is`
                        `not real`

°abc°	<u>Quiet speech</u>: degree signs indicate that the talk is spoken noticeably quieter than the surrounding talk

example: `1. A:   Dear   John,   °don't   sleep`
                        `please°`

>abc<	<u>Quicker speech</u>

example: `1. A:   please Jack! >no no no no<`
                        `please`

"abc"	<u>Reported speech</u>

example: `1. A:   and Sam said "where are you`
                        `from?"`

abc   <u>Bold</u>: to highlight segments of special analytical interest

Methodological aspects: Doing analysis

When the language is the focus of the investigation, the usual analytical objects in CA and DA are the following: the patterns of interaction; the sequential structures; the social organization of ordinary actions and activities; and the competence and procedures used by participants in interactions (Garfinkel & Sacks, 1970). However, conversation can also be viewed as a way used by the analysts in order to study other aspects of the social interaction, such as cognition, emotion, social identity, positioning (Coulter, 1981; Shotter, 1983; Hollway, 1984; Davies & Harré, 1990; Pontecorvo et al., 2001; Arcidiacono & Pontecorvo, 2010). As Psathas (1995) has pointed out, "*the variety of interactional phenomena available for study are not selected on the basis of some preformulated theorizing, which may specify matters of greater or lesser significance*" (p. 45). The job of the analyst is not to interpret the significance or nature of conversational activities, but to reveal how participants' own interpretations of the ongoing exchange inform their conduct. In other words, analysis can be grounded in the observable activities of the participants themselves.

In order to analyze argumentative exchanges, analysts select a number of conversational sequences occurring in the given interactions. As suggested by Schegloff (1990) "*the organization of sequences is an organization of actions, actions accomplished through talk-in-interaction, which can provide to a spate of conduct coherence and order which is analytically distinct from the notion of topic*" (p. 53). The participants' interventions are considered not as isolated turns, but as parts of sequences within the frame of the ongoing observed activity: in fact, it is possible to understand each turn only in connection with the previous and

the following one. In order to consider sequences as relevant for a study, it is necessary to refer also to the concept of "participants' categories" (Sacks, 1992), in order to avoid predictive assumptions regarding interactants' motivational, psychological, and sociological characteristics. In fact, these factors can only be invoked if the participants themselves are "*noticing, attending to, or orienting to*" them in the course of their interaction (Heritage, 1995, p. 396). In doing a conversational and discursive analysis and in considering the action that an utterance implements within an activity, the fundamental elements that researchers have to consider are three: the formulation of what actions are being accomplished; a grounding of this formulation in the participants' reality; and the explication of how a particular practice (in terms of utterance or conduct) can yield a recognizable action.

When the qualitative analysis is carried out on transcripts, analysts have to identify the participants' interventions within the selected sequences and to examine the relevant (informative) passages by going back to the audio and/or video data, in order to reach a high level of consent among researchers. Then they have to build a collection of instances, similar in terms of selective criteria, in order to start a detailed illustration of the conversational sequences. The presentation of excerpts aims at making the selection of cases clear and easy, avoiding the use of pre-established categories. In fact, from an ethnomethodological point of view, courses of action that run off "routinely" must be regarded as "*achievements arrived at out of a welter of possibilities for pre-emptive moves or claims, rather than a mechanical or automatic playing out of pre-scripted routines*" (Schegloff, 1986, p. 115). Summarizing, analysts have to select a sequence; to characterize the actions in the sequence on a turn-by-turn basis; to consider how the speaker's packaging of actions provides for certain understandings of the actions performed; to consider how the speaker formed it up and delivered it; to consider how the timing and turn-taking provide to achieve the actions; and to consider the ways the actions are accomplished

implicate certain identities, roles and relationships for the interactants.

Each excerpt has to be framed in its context of production, naming each part as a case that accounts for certain types of discursive activities. As a consequence, analysts have to remain sensitive to what interactants do, as well as to what they refrain from doing, to realize a given course of action (Maynard & Clayman, 2003). The way in which participants describe something is "reflexively" connected with the analysis because members produce, through talking, the social setting they inhabit in terms of objective features of interactions. Thus, every analyst's effort is made to avoid general or ideal-typical characterizations of interactional procedures in favour of attending to specific instances as they unfold within, are shaped by, and in turn organize concrete circumstances.

Within the first perspective of qualitative view (the study of conversation as the focus of investigation), by the analysis the researcher usually tries to understand how conversational system is locally managed (turn-by-turn), party-administered (by participants), and interactionally controlled (multilaterally shaped). Thus, two elements become relevant: the first concerns the notion of "recipient design" which means that a speaker builds an utterance in such a way that it fits its recipient (Schegloff, 1992). This notion fits with the multiplicity of ways in which participants take into account the particulars of who they are talking to and the events they are engaged in. In other words, recipient design refers to a multitude of respects in which the talk by a speaker in a conversation is constructed in ways which display an orientation and sensitivity to the others who are the co-participants. The second element is related to the fact that in the analysis of particular instances "*the purpose of generalization (…) is to see whether and how some a priori rule or principle is oriented to by participants in various instances of natural interaction*" (Ten Have, 1999, p. 136). The general interest is not in the activity-as-such, but in specific kinds of context-bound

activities. Researcher's effort is directed not at uncovering hidden meanings, but at the connotations that are actually and observably produced by the participants in and through the interaction.

An example of a family dinnertime conversation introduces us to this kind of qualitative analysis. The selected excerpt is a part of a corpus of data collected in Italy within a research project on family interactions (Pontecorvo, 1996; Pontecorvo & Arcidiacono, 2007). Participants' families have been asked to videotape their dinnertime 3 times over a 20-day period. All conversations have been fully transcribed and revised by researchers reaching a high level of consent. We present a short excerpt of a dinner conversation in order to illustrate some potential elements of analysis within the first perspective of qualitative research approach.

Excerpt 1

Participants: mother; father; children (Leonardo, 3 years, 9 months; Marco, 10 years, 3 months)

```
114. Mother:       where are you going? ((to Leonardo who
                   is making a move to leave the table))
115. Leonardo:     to use the computer
116. Mother:       the comPUter? ((taking Leonardo by the
                   arm to stop him from getting down from
                   the chair)) you haven't finished yet.
                   now listen here ALL OF YOU- this story
                   about the computer has to stop
117. Father:       no, no. it is enough, it is enough!
                   right? ((to Leonardo))
118. Mother:       because it is just not possible. at
                   meal times we stay at the table. and
                   we eat! no playing with the computer.
((Leonardo turns his back to the table and climbs down
from the stool on which he was sitting))
```

```
119. Mother:        Leonardo don't switch on the computer!
                    you haven't finished yet. you must eat
                    your fruit.
```

Excerpt 1 is a short example of a natural interaction among family members at dinnertime. Parents and children are often confronted to different actions and possible ways to cope with that depend on their contingent management of the situation at stake. The starting point of the episode is offered by the action of Leonardo who is moving to leave the table. This nonverbal conduct determines the intervention of the mother (turn 114 "*where are you going?*"), presuming the right to know the reason for the child's behaviour. The answer of Leonardo (turn 115 "*to use the computer*") and the reaction of the mother (turn 116 "*the comPUter?*") produce the opening of a sequence in which participants are engaged in a one-to-one exchange: the mother's first question (turn 114) obliges the selected recipient (Leonardo) to answer in the following turn (115). This micro-sequence constitutes an "adjacency pair" in which the organization of the turn-taking (the mother asks Leonardo something, selecting him for the next turn) and the nature of the interventions (question-answer) constitute a predictable structure of talk. In fact, an adjacency pair is a minimal sequence of two turns related by a principle of conditional relevance (Schegloff, 1972): given the first pairs part, the second is structurally expected. Usually, participants understand each other and keep the conversation going because they adhere to this structure.

In our case, the conditional relevance depends on the fact that a violation of this kind of organization could be interpreted as a dispreferred turn modality (Pomerantz, 1984), claiming participants to account their conduct. In particular, after the second question at the beginning of turn 116, the mother clarifies that it is not possible to leave the table if there is still some food to eat. It is very interesting that in her intervention she also includes the other child, Marco, using the plural form ("*listen here all of you*"). By this claim and the stress of a part of the sentence (ALL

OF YOU) she is underlying her intention to express a general rule that all family members (the children, in this particular case) have to comply with. Immediately after, the alternation between the child and the mother is broken by the father's turn of talk that is in alignment with the mother's claim. In fact, his turn 117 is addressed to Leonardo, aiming at positioning himself from the parental side, and reinforcing what the mother was saying just before. His claim "*it is enough, it is enough*" seems to be a way to complete the previous mother's interventions and to clarify the connotation of the Leonardo's behaviour. In legitimizing his claim, the father uses the tag-question "*right?*", a rhetorical device identified as "extreme case formulation" (Pomerantz, 1986) that is usually employed in order to defend against or counter challenges to the legitimacy of complaints, accusations, justifications, and defenses. Ideally, it entails a request to the defendant to remedy the perceived violation, for instance, by producing an account for the behaviour or by offering an apology. Goffman (1971) explains that this kind of intervention can be considered as "remedial interchanges" because the participant who has violated a rule or norm is expected to produce a remedial activity. The function of this remedial work is to change the meaning that otherwise might be attributed to the conduct at stake with the aim of changing what could be considered offensive into what can be considered acceptable. However, in our excerpt Leonardo is not able to produce a verbal account for his behaviour. As he is missing this opportunity for a remedial interchange, the parents make explicit their arguments against the child's behaviour in the final part of the excerpt (turns 118 "*at meal times we stay at the table and we eat! no playing with the computer*"). Although Leonardo tries to leave the table again, the mother immediately underlines that it is not possible to switch on the computer if he has not finished eating. Her final directive (turn 119 "*you must eat your fruit*") concludes the episode, definitively underlying the parents' authority within the family participation framework.

As we have pointed out in the introduction of this chapter, there is another possible perspective in doing qualitative investigation of verbal interactions: we are referring to research studies in which the analysis of conversation is a way to explore more specific psychosocial processes that are realized by participants in different settings of interaction. It is the case of several studies conducted within the field of social psychology, in which various cognitive processes have been investigated through the analysis of situations in which participants (usually children) are invited to discuss, to confront themselves with different points of view, to solve problems or to debate (Marro Clément et al., 1999; Whitebread, 2004; Markova et al., 2007; Psaltis et al., 2009; Arcidiacono & Perret-Clermont, 2010; Tartas et al., 2010). These studies refer to a variety of interactive situations in which the analyses of participants' conducts and of their "minds at work" are the results of the evidences that researchers can identify through what participants say and do during the interactions.

In order to illustrate how the study of conversation can be assumed as relevant in this kind of analysis of social interaction processes, we present a brief episode of discussion among children (aged from 5 to 7 years) and adults in a quasi-experimental setting implemented within a research project on argumentation (Arcidiacono & Perret-Clermont, 2009; Sinclaire-Harding et al., in press). In particular, the situation we present in the next excerpt is a revisitation of a Piagetian task in which an adult tests the children's understanding of the notion of conservation of quantities of liquid via conversation about the effects of pouring juice into glasses of different shape. We have videotaped the interactions in a Swiss school and we have fully transcribed the conversations among participants. Excerpt 2 is a short case of a multiparty discussion among an adult and three children.

Excerpt 2

Participants: experimenter (Exp); children (Mathilde, Matteo, Vincent)

```
((the experimenter has poured the content of a glass into
another smaller and wider glass, and children were asked
to discuss the relative quantities of juice in two
different glasses: the initial glass and the new smaller
and wider glass))
12. Exp:        so do they ((referring to hypothetical
                puppets interested in drinking some juice
                from     the     glasses    used    by    the
                experimenter)) both drink the same amount?
                ((of juice))
13. Vincent:    mhm ((shakes the head))
14. Matteo:     no ((shakes the head))
15. Mathilde:   ehm, yes! I say that they ((the glasses))
                both have the same amount ((of juice))
16. Exp:        ah, so you do not agree.
17. Vincent:    no
18. Exp:        and why?
19. Mathilde:   because they ((the glasses)) both have the
                same amount. ((of juice)) this one ((the
                glass smaller and wider)) is similar to
                the other one. ((the initial glass))
20. Vincent:    bu:t except that it is a- little (.) is
                bigger. ((referring to the initial glass))
21. Mathilde:   yeah, BUT otherwise it's the same amount.
```

Piagetian theories sustain that the need for conservation is a kind of functional a priori of logical thinking: in this sense the answers of a child have to be considered as the symptoms of his/her operational stage. Contrarily to Piaget's ideas that considered children's statements as dependent on their cognitive and logical levels, we intend to take into account the children's answers also as the result of the conversation with the adult and the peers. In fact, through the analysis of the dialogue among participants it is possible to explore to what extent the children's

interventions are not "simple" signs of their cognitive competencies, but also a capacity to cope with other points of view within a complex conversational framework.

In excerpt 2, children differently participate to define the solution about the amount of juice in different glasses. After the first experimenter's question (turn 12 "*so do they both drink the same amount?*"), children assume three distinct cognitive positions: Vincent shakes his head in a doubtful way (turn 13 "*mhm*"), as he does not know how to answer; Matteo takes a non-conserver standpoint (turn 14 "*no*"), but without any argument to support his position; and Mathilde recognizes the equality of amount of juice in the two glasses (turn 15 "*ehm, yes!*"). As the children's disagreement could be intended by the adult as depending on children's different cognitive levels, participants are invited to explain why they do not agree (turns 16-18 "*ah, so you do not agree. and why?*"). In this way, the experimenter is trying to understand the grounds of children's positions, but also to implicitly solicit the participants to reach an agreement about the expected answer. As a consequence, Mathilde tries to provide a reason in order to sustain her standpoint (as conserver): the glasses have the same amount because they are similar. The argument she is using concerns the perceptual similar shape of the containers. Although her initial answer was correct (there is the same amount of juice in the two cups), the glasses analogy as a relevant element to affirm the conservation of liquid is not consistent. Mathilde's argument can be reconstructed as a symptomatic scheme, as follows: the amount of juice is the same, because the first glass is of the same size as the second one, and two containers being the same size is symptomatic for the amount of juice in these containers being the same. The inconsistent argument provided by Mathilde produces the reaction of another child. In fact, Vincent who was unsure about the answer at the beginning of the sequence links his intervention (turn 20 "*but except that it is a little is bigger*") to the previous turn of Mathilde, saying "*but*" as a sign of opposition. In his view, it could

be possible that there is the same amount (as he is not contrasting the first part of Mathilde's claim in turn 19 "*they both have the same amount*"), but the argument of the similarity of glasses shapes is doubtful. Finally, Mathilde in turn replies to the partner, using a specific communicative form: from one side she is accepting the Vincent's remark (turn 21 "*yeah*"); from another side she highlights anew her belief about the conservation of liquid in the two containers (turn 21 "*but otherwise it's the same amount*"). It is interesting to notice that Mathilde employs the same rhetorical structure used by Vincent ("*yes...but*"). This device can be potentially interpreted as a way to build conversational moves as closely linked to the other's explicit or implicit suggestions rather than the sign of child's own self-governed logical thinking.

Excerpt 2 shows a possibility to consider the language (through the analysis of dialogues between adult and children) as a way to better understand the interactional dynamics through which different cognitive processes are mobilized and co-constructed during social activities of problem solving. The attention to conversational phenomena that take place during activities of debate, confrontation and discussion can be relevant in a large range of studies in social and educational psychology. Through the detailed account of how adults and children participate in dialogical experiences, we can contribute to the understanding of the growth of thinking. In fact, this process does not take place in a social vacuum, nor is the product of an a-historical individual. Thinking is rather situated and it has its roots in social interactions and conversations.

Concluding remarks

We have presented some aspects of the qualitative approach implied in discursive and conversational studies. Our interest in the investigation of talk-in-interaction has been a starting point to

highlight two analytical possibilities (identified in CA and DA) that allow for the account of interactions among people in their everyday social activities. Our idea has been to consider the advantages in combining conversational and discursive methods in order to enrich the analysis of interactional activities within a psychosocial perspective.

Although we are aware of the amount of different bias and epistemological considerations that the choice of an approach implies, we are convinced that a combination of different methods in studying the talk-in-interaction can strongly contribute to improve a qualitative view of the complexity of human processes. From one side, we recognize that it is important to analyze conversations and communicative structures as the focus of the investigation in different research studies in the field of social, developmental and educational psychology. It could permit to better understand cultural and situated strategies and activities that participants use in everyday social interactions as situated and distributed patterns of communication. On the other side, it is also useful to look at the "embeddeness" of thinking in conversations, trying to understand, through the analysis of dialogues, more specific phenomena that take place in social situations of interaction.

We think that a detailed qualitative study of discursive exchanges among people could improve our knowledge in various fields of psychology and education. For example, the analysis of conversation can help us to properly look at the working memory as the ability to hold multiple viewpoints in memory whilst verbally expressing ones' own opinion; to reconsider the theory of mind; to observe how the executive functioning takes place in terms of volition (the ability to formulate a goal or intention, to provide reasoned argument), planning (the identification and the organization of the process and elements of reasoning needed to carry out an intention/goal), the capacity to consider alternatives ideas and purposive action (for example, the ability to translate the intention into a productive, self-serving activity, to initiate,

maintain, switch and stop sequences of complex conducts in an orderly and integrated manner). Other possible gains could be obtained in the understanding of effective performances in social interactions, such as the ability to monitor, self-correct and regulate the intensity of different deliveries. A further field of interest could be the study of cognitive conflicts in terms of necessity for confrontation and disagreement when a discursive activity violates aspects of existing knowledge, creates uncertainties, poses novelties, seems complex, and the information that is received differs from existing information. At the same time, the attention to interest and social engagement in various activities (such as the commitment and the curiosity to/in a task and its discussion), as well as the motivation and the social awareness of others and compliance of social norms could be considered in more useful ways in the light of qualitative discursive approaches.

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Chapter 2

Asymmetrical peer interaction and formal operational thinking: What happens in dialogues between peers in unsuccessful dyads?[1]

Ivana Stepanović & Aleksandar Baucal

This chapter is a part of a research aiming at the examination of the role of asymmetrical peer interaction in the development of formal operational thinking. The term "asymmetrical interaction" is related to the cognitive asymmetry between peers, since we investigated dyads formed by students with different competences regarding the formal operational thinking. Our main goal here is to analyze and understand dialogues in unsuccessful dyads in which a student with lower competences regressed on the post-test after the interaction with his more competent peer. The dialogue analysis relies on theoretical and research grounds of studies within Piagetian and socio-cultural approaches which dealt with the influence of peer interaction on cognitive development. These two paradigms are considered as a source of relevant characteristics of peer dialogues which will be operationalized in the form of conversational characteristics and traced in the analyses of particular cases. The aim is to understand dynamics of unsuccessful dyads and to discover if certain

conversational characteristics can be related to a regression of students with lower competences.

Peer interaction and cognitive development from Piagetian and socio-cultural perspectives: The relevant characteristics of the peer dialogue

Piaget emphasized the significance of peer interaction for cognitive development in his early works (Piaget, 1923/2002; 1924/1999). Peer interaction is an encouraging setting for the transformation process of egocentric thinking in socialized form, because it is a prototype of relation without social constraint, which enables cooperation. After the discovery of sensorimotor intelligence, Piaget changed his opinion regarding the formative role of social factors in cognitive development. Despite that, he continued to believe that peer interaction is very important for emergency of logical thinking (Piaget 1941/1999, 1950/1999, 1960/1999). According to him, the cooperation is the only type of social relationships which leads to development of reflection, objectivity and critical thinking. This kind of relationship characterises peer relations because their affairs and dialogues are based on reciprocity. Cooperation in a dialogue presupposes common intellectual values (participants have such values or they make an effort to establish a common meaning of notions, i.e. intersubjectivity), coordination of different points of view through argument exchange (co-operation) and following the rules which ensure consistency of one's statements (Piaget, 1950/1999). However, Piaget never empirically tested peers' role in cognitive development.

Piaget's followers recognized the importance of peer interaction for cognitive development and created a rich corpus of empirical data which helped them to build a new perspective on this phenomenon. Authors divide studies within Piagetian approach into several periods (Perret-Clermont, 1993; De Abreu,

2000; Psaltis, 2005a, 2005b). First generation of studies was influenced by Piaget's idea related to the productive role of conflict in the process of cognitive transformations. The crucial part of the experimental design is the socio-cognitive conflict, a joint engagement of subjects with different perspectives on the same task. Although numerous studies (Doise et al., 1975; Miller & Brownell, 1975) revealed the productive role of socio-cognitive conflict in the development of new cognitive structures, there were findings which suggested that certain preconditions were necessary for such effect (Perret-Clermont, 1980; Psaltis, 2005a). Those findings were very important because they brought a new understanding of socio-cognitive conflict. It became clear that it was not enough to have subjects with different perspectives on the same problem. The more important is that the partners are aware of their different points of view and that they are trying to coordinate themselves (Perret-Clermont, 1980). Consequently, Psaltis (2005a) introduced a distinction between *shared* and *non-shared* cognitive conflict. Shared conflict implies a situation in which partners register a disagreement when manifestly and openly support their views, which results in a conflict. Non-shared conflict exists when one participant does not externalise her/his resistance or doubt and publicly agrees with partner(s). In this situation one will get the wrong impression that all participants share the same representation of reality, which Psaltis calls a *fake intersubjectivity*. The distinction between shared and non-shared conflict is particularly important for our analysis of dialogues in unsuccessful dyads. Besides that, the first generation of studies revealed some other aspects of interaction relevant for the interaction effect on cognitive changes which led to the next generation of studies.

The studies of the second generation were more oriented towards the process of interaction than towards its effects. Authors were interested in the meaning that the test situation (where interaction took place) had for the subjects and for the types of social context which generated that meaning (Schubauer-

Leoni & Grossen, 1993; De Abreu, 2000; Psaltis, 2005a). In that way authors of the second generation became closer to Vygotskian investigators of social interaction. The results showed that there was no symmetry in peer relation, as Piaget had assumed. On the contrary, representations and expectations of different asymmetries between peers exceeded their cognitive asymmetry and influenced the course and outcomes of interaction. Perret-Clermont (1980) describes the new understanding of agents that determine the nature of social interaction: a) different aspects of partners' social status (gender, academic reputation, social class, etc.) that affect their relationship and interaction outcome; b) the object of interaction which is the result of social construction during the interaction, but also of previous social experiences; c) the physical and social context in which interaction takes place.

The third generation integrates findings of previous studies in a common framework focusing on examination of communication between peers. Psaltis and Duveen (2006) emphasize that the previous two generations were oriented towards macro level of socio-cognitive conflict neglecting the micro level, i.e. the conversation between participants in interaction. Consequently, the authors of the third generation (Dimant & Bearison, 1991; Leman, 2002; Psaltis & Duveen, 2006, 2007) discovered characteristics of a dialogue that are related to productive role of peer interaction in cognitive development: shared socio-cognitive conflict, change of perspective on a particular problem as a result of interaction with more competent partner, manifested as an aha moment, partner's explanation of an offered judgment, or asking each other questions. Psaltis and Duveen (2007) investigated dialogue in a more detailed and qualitative way in order to reveal patterns of conversations that are related to a particular outcome of interaction. In that way, Piagetian studies got even closer to the socio-cultural understanding of language as a crucial mediation tool for thinking development. Studies of the third generation are relevant for our investigation primarily because they found that domination in a peer relationship, connected to different types of

social asymmetry among participants, does not encourage cognitive development generation. Besides that, some researches confirmed the results of the first studies that non-shared conflict did not resulted in a construction of new forms of thinking.

Traditionally, Vygotskyian studies were focused on adult-child interaction emphasizing the importance of their cognitive asymmetry for child's cognitive development. Vygotsky's followers developed and enriched the concept of the zone of proximal development (ZPD) specifying the ways and tools of adults' mediation. Studies of peer interaction within this approach came later and were inspired by Piagetian researches of this phenomenon. The aforementioned discoveries regarding ZPD influenced those studies as well as the significant topic of socio-cultural researches related to education and classroom as a learning context.

Studies of mother-child interaction conducted by Wertsch (Wertsch et al., 1980, Wertsch, 1991) resulted in a new understanding of behaviour and communication in a joint activity. He used terms like *negotiation of meaning*, *joint construction of meaning* and *division of responsibilities*. Joint construction of meaning is a term similar to *shared understanding* which is often referred as an important aspect of peer interaction related to cognitive advancement (Tudge, 1992; Forman & Larreamendy-Jones, 1995; Tudge et al., 1996; Tudge, 2000; Shamir & Tzuriel, 2004). Kumpulainen and Kartinen (2003) claimed that shared understanding would appear if partners shared information relevant for task solution, if they justified their opinions and asked for clarifications. Tudge's investigations identified characteristics of interaction enabling establishment of shared understanding among partners: partners verbalize their opinions and discuss their different positions, a more competent partner is confident and consistently manifests his cognitive capacities, a less competent partner asks questions and shows that he understands argumentation of his partner (Tudge, 1992; Tudge et al., 1996). However, he discovered certain dialogue characteristics which do

not encourage shared understanding between peers. His finding that a less competent student does not progress on the post-test if his/her partner is not confident (manifests doubts or confusion over the task solution) is particularly significant for our investigation of dialogues in unsuccessful dyads. In this sense *intersubjectivity* is the term close to the concept of shared understanding. Rogoff (1990) relates it to her concept of guided participation claiming that intersubjectivity enables communication among partners and makes interaction productive regarding the cognitive development. Tudge (1992) emphasizes that intersubjectivity exists in the peer dialogue if participants discuss differences in their opinions.

Another significant notion is Wood's *scaffolding metaphor* that specifies the way in which adults support learning and development in children. One of the most important aspects of adults' scaffolding is the behaviour oriented towards setting goals and providing reminders of activity goals (Wood & Wood, 1996). Reviewing socio-cultural researches of peer interaction, Tudge (2000) underlines mutual agreement between partners on goals of joint activity. Kumpulainen and Kartinen (2003) argue that productive peer interaction is based on providing elaborated conceptual and procedural explanations by the more competent partner.

It has already been mentioned that within socio-cultural approach language is considered as the most powerful mediating tool for thinking development. That is why research within this approach is focused on careful analysis of communication among partners in interaction. Mercer and his associates (Rojas-Drummond et al., 2003; Rojas-Drummond & Mercer, 2003; Mercer & Littleton, 2007; Littleton & Howe, 2010) investigated children's dialogue in classroom. They defined productive peer interaction as collaborative learning in classroom whose dynamics was based on an exchange of ideas. Through communication pupils test possible solutions, negotiate meanings and construct knowledge jointly. Authors of aforementioned studies encouraged

students to develop a special kind of dialogue which was directed toward social construction of ideas and joint activities. They call it *exploratory talk* because participants' intention is to explore different perspectives. Pupils search together for different and new alternatives of a task solution and explain their argument to support their opinions. They negotiate meanings of used terms through elaboration and argumentation of their ideas. The results show that it is possible to train pupils to practice exploratory talk (Rojas-Drummond et al., 2003), and that this kind of dialogue results in the construction of new types of knowledge on the individual and group level (Rojas-Drummond & Mercer, 2003; Howe & Mercer, 2007; Mercer & Littleton, 2007; Arcidiacono & Gastaldi, 2011). These studies are particularly relevant for our research because they discovered other types of peer dialogues which do not have positive effect. One of them is called *cumulative talk* because peers do not produce arguments for their ideas and they avoid confrontations. In the other type of dialogue, students express opposite opinions but they do not examine existing differences. Opposite opinions mainly serve as a ground for interpersonal conflicts, therefore this kind of dialogue is named *disputational talk*. Howe and Mercer (2007) refer to the described dialogue types as unproductive and conclude that peers in classroom mostly interact unproductively.

Piagetian and socio-cultural approaches to the phenomenon of peer interaction converged in time. Piagetian studies emphasized the importance of peer interaction for cognitive development and started to examine socio-cognitive conflict between peers. That inspired authors within socio-cultural approach who had already investigated competence asymmetry, although between children and adults. They developed ZPD concept through this type of research and transferred it into the studies of peer interaction. Their interest in language as a mediation tool and in a dialogue strongly influenced researches within Piagetian approach. Piagetian authors became more interested in the interaction process and dialogue effects on

cognitive changes. In that way, both approaches contributed to better understanding of the peer dialogue and its features relevant to the developmental outcomes.

The unsuccessful dyads in a dialogue: An empirical study

This work deals with dialogues in the unsuccessful dyads which consist of peers with different competences. The dyads are labelled as unsuccessful because the less competent student regressed after the interaction with his more competent peer. Our main goal is to analyze dialogues between peers in these dyads in order to identify their characteristics and find out if they could be related to the regression of less competent students. For that purpose we have chosen four dyads in which less competent students regressed most (compared to all the other less competent members of dyads) after the interaction. We also decided to analyze dialogues in the two most successful dyads in which less competent students advanced most on the post-test. The idea is to compare peer conversation in successful dyads with dialogues in the unsuccessful dyads because we expect to find differences in conversations that would help us to better understand the dynamics of unsuccessful dyads.

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 analyze phenomenon of regression. The exception is Tudge (1989) who investigated regression of more competent students. He argues that Piagetian theory predicts progress for both participants in the interaction, regardless of their different competences, and that socio-cultural theory offers similar prediction. A child with higher competence will progress as well as a child with lower competence because they both experienced socio-cognitive conflict, i.e. perspective difference.

Tudge (1989) disagrees with that assumption relying on the finding that more competent students regressed after the interaction if they did not reach higher levels of rule based thinking or if they were not confident. 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. It is possible that such behaviour can lead to their regression as well. Tudge does not mention regression of less competent students probably because he did not use tasks that would make that regression possible to register. His tasks were primarily designed to register regression of more competent students.

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 analyze 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 the peer dialogue influencing its effect on the cognitive development. Following this evidence, an instrument for assessment of the quality of peer interaction based on these characteristics was constructed. The instrument incorporates two categories of peer dialogue features. The first one is related to the characteristics that were found by many researches to be the cause of advancement of students with

lower competences. The other one consists of characteristics that were present in peer dialogues when students did not advance after interaction with a more competent partner.

The first group of characteristics has been called **productive characteristics** and it consists of five dimensions: cooperation, shared socio-cognitive conflict, aha moment, mediation, and justification of the right answer. *Cooperation* is related to one aspect of Piagetian understanding of this term (Piaget, 1950/1999) and it presupposes an exchange of arguments between partners which leads to coordination of their perspectives. *Shared socio-cognitive conflict* is a concept introduced by Psaltis (2005a) in order to describe more precisely the nature of peer interaction that is found to be connected with cognitive growth by numerous investigators. It implies the situation where partners are aware of their different opinions because they express the opinions openly and occasionally support them by arguments. *Aha moment* is a dimension that 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 and colleagues (Psaltis, 2005a; Psaltis & Duveen, 2006, 2007) have shown that this kind of behaviour of less competent students, which was actually a consequence of their partner's activity, was closely related to their progress on the post-test. *Mediation* is a term that originates from socio-cultural approach closely connected to ZPD concept and it describes the activity of more competent person who guides his partner towards the task solution. It can be related to all concepts we discussed in the context of development of ZPD notion by Vygotskian authors. In our case, mediation represents complex and delicate behaviour of more competent student who gives assistance to his/her partner in the process of task solution. He/she focuses partner's attention on the important aspects of a task, sets goals and directs his/her actions. He/she is sensitive to his/her partner's needs and competences and constantly adjusts his/her activity according to them. In that way, more competent

student makes real socio-cultural notions of shared understanding and intersubjectivity. *Justification of the right answer* also describes behaviour of a more competent student. Many authors from both approaches emphasize the importance of opinions argumentation by more competent students for their partner advancement. We expect the productive characteristics to characterize dialogues in successful dyads and not to appear, or rarely appear, in conversations in unsuccessful dyads. For example, if a conversation in unsuccessful dyads misses our dimension of cooperation, it will look like a cumulative talk because peers do not produce and discuss arguments.

The second group of dialogue characteristics has been called **hindering characteristics** because, based on the reviewed studies, their presence in the peer dialogue prevents cognitive change in less competent students. We trace five hindering characteristics: inconsistent behaviour, domination, submissiveness, lack of cooperation and indifference. *Inconsistent behaviour* refers to the behaviour of more competent student. Tudge (Tudge, 1989, 1992; Tudge et al., 1996) found that less competent students do not advance after interaction if his/her partner is not confident. Our dimension incorporates the behaviour described by Tudge when the more competent child is not confident and expresses doubts in his/her answer or a way in which a task can be solved. Besides that, our dimension includes situations when a more competent student suggests a wrong answer or accepts a wrong answer proposed by his/her less competent partner. It has already been mentioned that certain authors questioned Piagetian assumption regarding reciprocity among peers. They discovered that different types of social asymmetry often cause dominant behaviour of one participant in interaction which can influence its results and blur effects of cognitive asymmetry between peers. Dimension of *domination* in our analysis applies to situations in which one student imposes solution or disables partner's initiative. If both students showed domination, that type of interaction would match disputational

talk as defined by Mercer and colleagues. *Submissive behaviour* of one participant in interaction frequently accompanies dominant behaviour of the other. Here we are interested in submissiveness of a less competent student because such behaviour of his/her partner would be described by the dimension of inconsistent behaviour if it prevented him/her to give a correct answer. In one aspect, this dimension is related to the concept of non-shared conflict, as it describes behaviour of a less competent student who does not propose his/her own answer. Nevertheless, the dimension of submissiveness has broader meaning because it applies to situations when a less competent student accepts an answer proposed by his/her partner, although he/she did not offer any justification, or completely leaves an initiative to the partner. *Lack of cooperation* means that there is no interaction between partners and that they solved task individually. *Indifference* of one or both students also prevents real interaction because one or both students do not participate.

Based on beforehand mentioned characteristics of the peer dialogue, we present an empirical study that has been conducted in order to closely investigate what happens in dialogues between peers in unsuccessful dyads. We expect for hindering characteristics to properly describe communication patterns in dialogues in unsuccessful dyads. In addition, we expect an absence of productive characteristics from those dyads as well.

The method

The research had an experimental design: pre-test, intervention and post-test situation. The sample was convenient and consisted of 316 students. During the pre-test, 3 classes from grade 6 (152 students, age 12) and 3 classes from grade 8 (164 students, age 14) of primary school were tested by Bond's Logical Operations Test (BLOT). This is a multiple choice test which covers all formal operations described by Inhelder and Piaget

(1958), with good metric characteristics (Bond, 1978-1979, 1980, 1989, 1995, 1997). According to BLOT results of the pre-test, 47 dyads were formed. They consisted of more competent and less competent students of the same sex. Competence difference across the dyads was approximately the same, which is accomplished by using the Item Response Theory (IRT) technique. During the intervention, each dyad solved 5 tasks. They received instructions from an experimenter to solve tasks together and to agree on the correct solution. All dyads were video-taped. 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. The great strength of IRT technique is the possibility of measuring students' ability and tasks' difficulty on the same, logit scale. This means that all five tasks, regarding their difficulty, are below the ability of a more competent student and above the ability of a less competent student (Baucal & Jovanović, 2007). One month after the interaction phase, the post-test took place.

Since the main goal of this study is the dialogue analysis in unsuccessful dyads, we chose 4 dyads in which a student with lower competences regressed most. Although each dyad solved 5 tasks, we selected only the most representative dialogues and they will be presented here. However, characteristics of other dialogues will be mentioned in a short manner. In addition, the analysis of conversation in two successful dyads is also provided, in order to give us the opportunity to compare dialogues in dyads that led to different outcome and to have better understanding of interactions in unsuccessful dyads.

The analysis of peer dialogues is focused on the identification of the dialogue characteristics derived from theoretical and research grounds of studies within Piagetian and socio-cultural perspectives. Those dimensions are represented as five productive and five hindering characteristics (see Figure 1).

Figure 1

Characteristics of peer dialogue	
<u>PRODUCTIVE</u>	<u>HINDERING</u>
Cooperation	Inconsistent behaviour
Shared socio-cognitive conflict	Domination
Aha moment	Submissiveness
Mediation	Lack of cooperation
Justification of the right answer	Indifference

Do dialogues in successful and unsuccessful dyads differ? A case analysis

Firstly, the analysis of dialogues in two most successful dyads is presented. We try to discover whether our assumption regarding the presence of productive and the absence of the hindering dialogue characteristics is confirmed. Dialogues in those dyads serve us as a reference point for dialogue analysis in unsuccessful dyads. In the analysis of dialogues in the four most unsuccessful dyads we try to identify the presence of two kinds of dialogue characteristics. We attend to find out if the hindering characteristics prevail in the conversation within those four cases.

The successful dyads

Case 1
Participants: experimenter (Exp); male dyad consisting of students from grade 8. Nikola is a more competent student (HC) and Kosta is his partner, a less competent student (LC) who increased his score on the post-test for 2.3 logits.

The first dialogue in this dyad was very short. Participants quickly agreed on the right solution and Kosta explained it in a proper way. The next dialogue is related to the following task.

Task 1, item 14:

Every month, a man buys a raffle ticket for the competition in which the main prize is a trip. Which month does he have the best chance of winning the trip?

- (a) *in January with 100 tickets sold*
- (b) *in February with 40 tickets sold*
- (c) *in March with 500 tickets sold*
- (d) *in April with 1700 tickets sold*

Excerpt 1

```
1. ((Nikola reads the task aloud))
2. Nikola HC:    well (.) b
3. ((Kosta reads the alternatives again))
4. Nikola HC:    it's b I think (.) because there are
                 less tickets (.) and you
5. Kosta LC:     and what if he runs out of tickets?
6. Nikola HC:    well (.) again it's b
7. Kosta LC:     I think that it's d
8. (7.0)
9. Nikola HC:    b for sure
10. Kosta LC:    why b?
11. Nikola HC:   because one ticket always wins (.) there
                 is always a winner
12. Kosta LC:    you are right ((circles the statement
                 b))
13. Kosta LC:    ((explains the answer)) here we have
                 chosen b ((reads the statement)) because
                 there is the biggest opportunity for
                 winning in those 40 tickets (.) only 40
                 were sold (.) it is possible not to win
                 (.) but there are more opportunities to
                 get a ticket there than here where 1700
                 are sold
```

Nikola, a more competent student, proposes the answer in the turn 2. As Kosta reads alternatives again, Nikola proposes the answer again, providing an explanation (turn 4). Kosta's question

in the turn 5 reveals that he did not understand Nikola's argument. He is focused on the concrete instead of the formal aspects of the situation presented in the task. This is a typical reasoning for concrete-operational stage. Socio-cognitive conflict occurs when Nikola replies to Kosta's question confirming that "b" is the right answer (turn 6) while Kosta chooses "d" (turn 7). Nikola is confident in the proposed answer (turn 9) which provokes Kosta to ask for an explanation in the turn 10. Nikola offers another argument in the turn 11 and Kosta agrees (turn 12). His explanation shows that Nikola's second argument changed his perspective on the problem and that he understands it properly.

Later on, the same dyad was involved in solving the following task.

Task 2, item 26:
Let's suppose that husbands were either "thin" or "fat" and suppose that wives were either "thin" or "fat". Which of the following contains all the different ways of husbands and wives being married?
(a) fat husband and fat wife; thin husband and thin wife
(b) thin husband and fat wife; thin husband and thin wife
(c) fat husband and thin wife; thin husband and fat wife
(d) all those in (a) & (b) together
(e) all those in (a) & (c) together

Excerpt 2

```
1. ((Nikola reads the task, and while reading he starts
writing a combination of couples and shows that to Kosta))
2. ((Kosta checks whether all couples are there by reading
the text of the task))
3. Nikola HC:    now I'll write all that ((starting to
                 write down the combinations))
4. Nikola HC:    so it can be fat men and fat women, then
                 it can be thin, well=
5. Kosta LC:     =thin men and thin women.
```

6. Nikola HC:	and thin men and fat women *((writes down two remaining combinations))* there are four possibilities
7. Kosta LC:	yes
8. Nikola HC:	«fat husband and fat wife, thin husband and thin wife»[2] *((reads aloud the statement a))* no we have only two there
9. Nikola HC:	«thin husband and fat wife; thin husband and thin wife» *((reads b))*
10. Nikola HC:	it's a and b *((reads the two statements aloud))*
11. Kosta LC:	no it's the same here *((points at the end of statement a and statement b))*
12. Nikola HC:	yes I see it's a and c
13. Kosta LC:	yes then all of them are here
14. Nikola HC:	this is e
15. Kosta LC:	yes
16. Exp:	why have you chosen that answer?
17. Kosta LC:	here we have circled e because the answer is all couples from a and c (.) because it implies that all married couples may be fat husbands and fat wives (.) thin husbands and thin wives (.) may be fat husbands and thin wives and thin wives and fat husbands (.) all four combinations *((while telling this he does not look at the paper where all combinations are written))*

Cooperation between partners and mediating behaviour of a more competent student are present at the beginning of this dialogue. Nikola directs the task solution process by making the list of all possible combinations of married couples (turn 1). Kosta follows him and compares Nikola's products with the task information (turn 2). In that way, the solution of the task becomes a joint activity. Nikola repeats the set of combinations (turn 4) and Kosta completes it (turn 5), which can be interpreted as a sign of intersubjectivity between them. Then Nikola chooses two

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[2] The symbols « » indicate when the speaker is reading a part of the item's text.

statements representing the right answer. Kosta notices that Nikola overlooked that the last part of statements ("a" and "b") are the same and he warns Nikola in turn 11, showing that he understood the logic of combinations. In this way he carefully monitors Nikola's reasoning. Nikola corrects himself in turn 12. They reason together regarding the whole set of combinations (turns 14 and 15). Finally, Kosta's understanding of the combinations logic is shown in his explanation of the chosen answer in turn 17.

In the course of interaction two more dialogues between Kosta and Nikola are pretty much the same as the previous one. Nikola focuses the attention on the relevant information in the tasks and constantly justifies his reasoning. Kosta joins him and the process of tasks solution is a joint activity fulfilled with argument exchange.

As we have expected, only productive characteristics were shown in dialogues of this dyad: cooperation, shared socio-cognitive conflict, mediation and justification of the right answer provided by the more competent student. Besides that, the less competent student (Kosta) strongly participates in the dialogue contributing to the process of task solution.

Case 2
Participants: experimenter (Exp); Sandra and Una (respectively HC and LC female students from grade 6). Una, the less competent student, progressed on the post-test for 2.4 logits.

Since dialogues in this dyad did not show any new dimension in comparison to the previous case, their analysis will be only summarized. The most salient characteristic of the interaction between Una and Sandra is the joint task solution, i.e. dimension of cooperation. During the interaction, Sandra usually proposes the right answer and gives the explanation. Una actively participates. She carefully follows Sandra and exchanges opinions

with her and provides arguments. This case has also shown the presence of only productive characteristics.
The unsuccessful dyads

<u>Case 3</u>
Participants: experimenter (Exp); female dyad consisting of students from grade 8. Ana is the student with higher competences (HC). Tea, the less competent student (LC), achieved lower score on the post-test than on the pre-test for 0.72 logits.

The first problem students were solving was represented by the following task.
Task 1, item 3:
A botanist has found that some medicinal herbs are sometimes found together. In his life he has sometimes found mint and chamomile together, sometimes he has found chamomile by itself; every other time he has found neither chamomile nor mint. Which of the following rules has been true for this botanist?
(a) mint and chamomile are found together, never apart
(b) if he found chamomile then he found mint with it
(c) if he found mint then he found chamomile with it
(d) if he found mint then he didn't find chamomile

Excerpt 3

```
1. ((Ana underlines the text while reading it. In the task
she has highlighted "mint and chamomile", "chamomile" and
"he didn't find nor mint or chamomile"))
2. (43.0) ((students look at the task))
3. Ana HC:  what do you think?
4. Tea LC:  well (.) I don't know
5. ((Ana circles the answer))
6. Ana HC: excuse me we have to tell you now or just to
          circle it? ((Ana asks experimenter))
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7. Exp:      you³ can explain why you have agreed that only
             that answer is correct you should always agree
             on which answer is correct
8. Ana HC:   all right
9 Exp:       For example Tea can explain
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*((students return to the task and each of them reads again
to herself))*
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10. Ana HC:  what do you think?
11. Tea LC:  well I don't know
12. Ana HC:  should we explain it now or=
13. Exp:     =if you have agreed, yes
14. Ana HC:  OK we think that it is c should we say what is
             the question? ((Ana asks experimenter))
15. Exp:     why have you chosen that answer?
16. Ana HC:  so here it's said that he has found mint and
             chamomile together and sometimes a chamomile
             but in some cases he has found neither
             chamomile nor mint ((she looks at the
             experimenter))
17. Ana HC:  so under a (.) «Mint and chamomile are found
             together, never apart» it is not true because
             chamomile may occur alone.
18. Ana HC:  B (.) «If he found chamomile then he found
             mint with it.»=again it's not true because
             chamomile may occur alone.
19. Ana HC:  under c=«If he found mint then he found
             chamomile with it»=that we think is true
             because the mint and chamomile occur together
             there can only be mint and chamomile,
             chamomile alone and not to be anything
20. Ana HC:  and under d=«If he found mint then he didn't
             find chamomile»= and we think that it's not
             true
21. Exp:     do you agree? ((to Tea))
22. Tea LC:  well yes
```

³ Experimenter used the plural pronoun "you" ("vi" in Serbian), which is in Serbian, unlike in English, different from singular form ("ti" in Serbian), in order to emphasize that students should solve the task together and agree on correct solution.

Excerpt 3 shows the domination of Ana (the more competent student) and the submissive behaviour of her partner Tea. Although Ana asks her partner for an opinion (turn 3), she circles the answer (turn 5) without any consultations with her. It is interesting that she uses the pronoun "we" (turns 6, 12 and 14) although she made all decisions by herself. Ana does not offer any justification to Tea. She explains her answer only to the experimenter in turns 6 and 16. Tea appears almost out of communication (turns 4 and 11). Even when the experimenter emphasizes that partners should agree on the solution (turn 7) and that Tea could explain the chosen answer (turn 9), she does not ask Ana to justify the proposed solution. Tea leaves Ana all the initiative. She just passively agrees with Ana in turn 22. In the presented dialogue we noticed two hindering characteristics: domination of the more competent student and submissiveness of her partner who does not ask for an explanation. Besides that, it is obvious that more competent student does not feel the need to justify the proposed answer. Since the student with lower competence did not offer her own perspective on the task solution, shared socio-cognitive conflict did not appear.

The next three dialogues of this dyad are very similar to the previous one. They are characterized by dominant behaviour of the student with higher competences and submissiveness and passive attitude of her partner. At the end of the interaction course students were dealing with the following problem.

Task 2, item 31:
A young woman could not swim because chlorine affected her hair. Although she did not swim she lost weight sometimes and at other times she did not lose weight. Which of the following is true?
- *(a)   if she did not swim, she did not lose weight*
- *(b)   whether or not she lost weight, she did not swim*
- *(c)   even if she lost weight, she didn't swim*

> *(d)   sometimes swimming causes you to lose weight, sometimes not*

Excerpt 4

1. *((Ana underlines the part of the text in the task: Although she did not swim she lost weight sometimes and at other times she did not lose weight))*
2. (48.0)
3. Tea LC: I think it's c
4. Ana HC: I doubt between b and c
5. (21.0)
6. Ana HC: can two answers be possible or just one
7. Exp: only one is correct
8. Ana HC: look «Although she did not swim she lost weight sometimes and at other times she did not lose weight» *((reads the part of the task))* and now «If she did not swim, she did not lose weight» *((continues to read the claim under a))* so it's incorrect because she was sometimes losing weight «Whether or not she lost weight, she did not swim» *((reads the statement b))* I think it's somehow partly true I have doubts between that and this because she didn't go for a swim but she lost sometimes and sometimes not=» even if she lost weight she didn't swim»=yes it's true that she didn't go for a swim, but lost weight sometimes(.) «Sometimes swimming causes you to lose weight, sometimes not». *((reads the statement under d))*
9. (22.0)
10. Ana HC: I don't know, what shall we do
11. Tea LC: I don't know
12. (17.0)
13. Ana HC: I think
14. (10.0)
15. Ana HC: what do you think? *((to Tea))*
16. (6.0)

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17. Ana HC: I don't know I would circle this one ((points
             at b))
18. Tea LC: I don't know ((looks at the task)) circle b
19. ((Ana circles b))
20. ((they look at the task))
21. Ana HC: who will explain this now?
22. Tea LC: I don't know, you explain
23. Ana HC: well (.)
24. ((Ana reads the entire task, and then the claim a))
25. Ana HC: that's not true because she didn't swim but
             she lost weight sometimes and sometimes not
26. Ana HC: «Whether or not she lost weight, she did not
             swim.»=we think that's true we had doubts
             between this answer and the next one but we
             have circled this so ((reads the statement b
             again and then the statement c)) we had the
             same (.) we had doubts
27. Ana HC: and d=«Sometimes swimming causes you to lose
             weight, sometimes not». she didn't go for a
             swim so, it's not about swimming I think
             that's it.
```

In the excerpt 4, for the first time in the course of the interaction Tea suggests the task solution (turn 3). Although Ana got this item right on the pre-test, now she expresses a dilemma between two alternatives (turn 4). For the first time Ana verbalizes her reasoning (turn 6). It seems that the pronoun "we" has different meaning now than in the excerpt 3. Ana is not sure about the right answer and she tries to involve Tea in the process of the task solving (turn 10). At that point Tea withdraws from the communication as in the previous situations (turns 11 and 18). In comparison to the excerpt 3, Ana now leaves some space to Tea suggesting the task solution (as in turn 17). Here Ana missed the opportunity to justify her answer and to involve Tea in the discussion, i.e. to create a situation for a joint activity. Tea does not comment her proposition (turn 18). She just lets Ana to circle the answer, without providing any explanation why she agreed (turn 22). It is noteworthy that Ana again uses the pronoun "we" (turn 26) when she expresses her doubts, although Tea never

expressed the same doubts. Here we identified two hindering characteristics: inconsistent behaviour of the more competent student, since she expressed doubts between two alternatives, and submissiveness of the less competent student who, again, does not comment the proposed answer and does not ask for an explanation.

This case demonstrates how difficult it is to build the process of joint thinking when the less competent student takes a passive role as a result of dominant behaviour of the partner. The student with higher competences (Ana) neglected and marginalized Tea. That probably reflected on the situation when she expressed dilemmas and tried to involve her partner Tea in the communication. Even though this situation was an opportunity for Tea, she did not take that chance. The way Ana treated her probably made Tea to think that she could not contribute to the process of task solving.

Case 4

Participants: experimenter (Exp); Petar (HC) and his partner Marko (male students of grade 6). Marko is a less competent student (LC) who regressed on the post-test for 0.72 logits.

In the first dialogue in this dyad students individually solved the task. Soon after reading the tasks they came to the correct answer by themselves. They just noted that they had agreed on the answer and there was no argumentative exchange or real interaction.

The second dialogue was marked by a dominance of Petar, the more competent student, and the submissiveness of his partner. Petar proposed the answer without any arguments and Marko simply agreed. He did not ask Petar to explain the proposed answer. The dialogue was very short.

Later on, this dyad was asked to solve the following task.

Task 1, item 15:

A patisserie man makes three kinds of fruit cakes. The first kind has strawberries and bananas together; the second kind has strawberries by themselves; the third kind has no strawberries or bananas. He does not make any cakes with just bananas in. Which of the sentences below describes the cakes?

> *(a) if strawberries are in the cakes then bananas are*
> *(b) strawberries are in the cakes if bananas are*
> *(c) strawberries and bananas are always in the cakes together*
> *(d) bananas may be in the cakes by themselves*

The dialogue was very interesting because the student with lower competences has shown an initiative.

Excerpt 5

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1. Marko LC:   so it's certainly not d «He doesn't make
              cakes with just bananas in» ((reads the part
              of the text)) and it's certainly not d
2. ((Petar reads again all the alternatives aloud))
3. Marko LC:   d certainly isn't
4. ((Petar reads the task again))
5. Marko LC:   I think it's b
6. (9.0)
7. Petar HC:   yes it's b ((circles the answer))
8. Exp:        why have you decided for b?
9. Petar HC:   we[ll
10. Marko LC:    [first   cake   is   with   bananas   and
              [strawberries
11. Petar HC:  [together
12. Marko LC:  together and the other has only strawberries
              and the third has neither strawberries nor
              bananas
13. Petar HC:  and he doesn't make any cakes that have only
              bananas
14. Marko LC:  no he doesn't
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15. Petar HC: so a cake has strawberries if it has bananas
              (.)
16. Petar HC: «strawberries are in the cakes if bananas
              are» ((reads the statement b))
17. (5.0)
18. Marko LC: let's continue to the next task
19. Petar HC: let's
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Marko, the less competent student, starts the dialogue and argues why "d" is not the correct answer. At the beginning Petar does not respond, but afterwards he agrees with Marko that the right answer is "b" and circles it (turn 7). Although they do not explain to each other why "b" is the correct answer, in the process of an answer explanation to the experimenter they actually offer arguments for that and complement each other (turns 10-15). This dialogue is interesting because the less competent student started the process of task solution. It shows the presence of one productive characteristic. Cooperation between partners and argument exchange occurred, but in an obscure manner. Partners did not go deeper into argumentation probably because of the task structure (a multiple choice test). Another reason for a reduced argumentative exchange could be the fact that there was no disagreement between the partners.

The next excerpt is interesting because it shows the dialogue which starts in the same way as the previous one, but the dominant attitude of Petar prevails and changes the course of the interaction and its result.

Task 4, item 21:
A farmer put rabbits in room (X) and (Y) which are joined together by a passage that allows the rabbits to move freely from one room to the other. He discovers that the rabbits will be attracted to the room which has more food or to the room which has more water. The rabbits stay away from the room which has less food or the room with less water. However he finds that rabbits will come to a room which has less food with more water or to a room which has more food with less water. He wants to

discover which room the rabbits will like the best when he changes water and food.

The number of rabbits in each room is equal because the food and water levels are the same. The farmer increases the water in room X and decreases food in room X by a corresponding amount. What will happen?

> *(a)   all rabbits will go to Y because X has less food*
> *(b)   all rabbits will go to X because X has more water*
> *(c)   the rabbit numbers will remain equal*
> *(d)   all rabbits will go to Y because it has more food*

Excerpt 6

```
1. Marko LC:  a or b
2. ((as he didn't hear this, Petar continues reading the
task to himself))
3. Marko LC:  rabbits prefer water and food
4. Petar HC:  no, they prefer water
5. ((Petar reads again the pre-text of the task))
6. Petar HC:  «but he found that the rabbits would come
              into the room with less food and more water»
              ((circles b))
7. Marko LC:  yes yes b
8. Exp:       why have you decided for b?
9. Petar HC:  rabbits prefer water to food
10. Marko LC: yes they prefer water and they will go where
              there is more water and less food
```

As in the previous excerpt, Marko starts the conversation suggesting the correct answer. As Petar does not respond again, Marko tries to explain the chosen answer in the turn 3. He uses the verb "to prefer", but it is clear that he wants to say that rabbits are attracted by both water and food. At this point Petar emphasizes that rabbits prefer water. Although he reads the pre-text again, he focuses on just one relevant part of it (turn 6), which leads him to the wrong conclusion. This is not in line with the correct answer he gave on the pre-test because this time he did

not show formal-operational reasoning as he was not able to coordinate different characteristics in order to solve the task. It is interesting that the conversation with another person shows that Petar does not understand this task completely and that his pre-test success on this task could be a fake one. However, Marko was an active participant in the interaction again. In this situation the less competent student proposes the right answer, whereas the more competent student chooses the wrong one. It is the *reverse socio-cognitive* conflict, since expected partners' roles are switched. Similar to the situation in the second task, Petar demonstrates dominant behaviour circling the answer "b" without asking Marko if he agrees (turn 6). Even though he claimed before that rabbits were attracted by water and food (turn 3), Marko is misled by Petar's statement and he agrees with him (turn 7).

The fifth dialogue of this dyad shows the same characteristics as the first one. Students solved the task correctly, but individually. This case shows hindering characteristics expected for unsuccessful dyads: dominant and inconsistent behaviour of the more competent student, as well as submissiveness of the less competent student. However, the productive dimension of cooperation also occurred in one dialogue of this dyad. The less competent student Marko had a very active role on the third task. He started the process of the task solving and proposed the correct answer. His partner Petar agreed on the correct answer and they exchanged arguments while explaining the solution to the experimenter. On the fourth task Marko again proposes the right solution, but this time the interaction course had a different epilogue. Namely, the *reverse socio-cognitive* conflict appeared because Petar proposed the wrong answer. His dominant attitude prevailed, caused Marko's withdrawal and his acceptance of the wrong solution. It is important to add that the less competent student proposed the correct solution on four out of five tasks, which raises the question whether these answers are a result of a developmental process after the pre-test or his results on that test

were not valid regarding his competences and influenced by some unidentified factors.

Case 5
Participants: experimenter (Exp); Luka and Ivan who are students of grade 6. Luka is the more competent student (HC) and Ivan (LC) regressed on the post-test for 0.59 logits.

Dialogues between these two students repeat some situations from the previous excerpts, so they will be just shortly described and only new types of interaction will be presented here. The main characteristic of the dialogue regarding the first task is the role change, i.e. the reverse socio-cognitive conflict. The less competent student Ivan proposed the right answer while his more competent peer selected the wrong one. The behaviour of the student with higher competences on this task can be described as inconsistent regarding his results on the pre-test. Ivan explained his opinion and managed to convince the partner to accept his argumentation. The second dialogue between Luka and Ivan reveals Luka's absence of sensitivity regarding his partner's needs and his dominant attitude towards him. Luka proposed the correct answer but without an explanation. Although Ivan expressed doubt in his proposal, Luka does not feel the need to provide an argument. On the contrary, he was impatient and circled the answer. He acted as if Ivan was not present. Ivan gave up and submissively agreed on Luka's answer. The next dialogue is similar to the first one because the reverse socio-cognitive conflict occurred again. However, in this situation Ivan does not justify his proposal. Despite his proposed answer he circles the answer suggested by Luka, manifesting submissive behaviour. In the fourth dialogue Ivan proposes the wrong answer, but very quickly he realises which answer is the right one. Luka agrees with him that it is the correct answer.

Task 1, item 24:

A boy is allowed by his parents to watch a street parade of old vehicles for a short time. So he can see as much of the parade as possible should he:

  (a) *walk the same direction as the vehicles are going*
  (b) *walk the opposite direction as the vehicles are going*
  (c) *stand still*
  (d) *cross to other side of road*

Excerpt 7

```
1. Luka HC:    b, that's easy (.) can I explain
2. Ivan LC:    wait ((reads the task to himself))
3. Luka HC:    it's b
4. (10.0) ((Ivan still reads the task to himself))
5. Luka HC:    if he walks (.)  look (.)  may we draw this?
               ((to the experimenter))
6. Exp:        yes of course
7. Luka HC:    you see it's this way (.) parade goes like
               this ((draws top down dashed vertical line))
               and  he  goes  like  this  ((draws  parallel
               bottom up dashed vertical line)) he will see
               more cars because they are coming across and
               he will see more cars ((referring to the boy
               and the parade))
8. Ivan LC:    yes
9. Luka HC:    and if he goes in the same direction he will
               follow one car
10. Ivan LC:   Yes so he won't be able to make it yes yes
               it's b
11. Luka HC:   b (.) let me explain it
12. Ivan LC:   ok
13. Luka HC:   so ((reads the task aloud)) we decided that
               he walks in the opposite direction from that
               in which the line moves because he is coming
               across  with  them  and  so  he  can  see  more
               cars(.)  and  if  he  is  moving  in  the  same
               direction or standing, he can is less=
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14. Ivan LC:  =like this he will see more cars and if he
              is moving as them he will follow only one
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Luka wants to explain the answer he proposed to the experimenter, without paying attention to his partner (turn 1). As Ivan continues to read the task (turn 4) Luka starts to elaborate his opinion in a detailed manner, unlike in the previous dialogues. Luka explains the basic principle (turn 7) and then argues what would have happened if the boy had moved in the direction of the parade (turn 9). In this way Luka guides Ivan and shows his effort to establish some intersubjectivity with his partner. Luka's mediation helps Ivan to understand the principle and he becomes able to verbalize it (turns 10 and 14). This part of the excerpt is an example of *aha moment*, when person gains a new perspective on a task as a result of partner's argumentation.

In this case we spotted hindering characteristics as the pattern of dominant behaviour of the student with higher competences accompanied with his partner submissiveness. The dominant attitude of the student with higher competences obviously makes the joint activity hard, constraining the initiative of his partner. Namely, this case is also marked with quite an active role of Ivan, the student with lower competences. As in the previous case, Ivan proposed the right answer on four out of five tasks. That also makes his performance on the pre-test puzzling. As in the previous case, the reverse socio-cognitive conflict appeared. Once Ivan managed to persuade Luka to agree on the correct answer, but the other time he gave up and submissively accepted the wrong answer proposed by Luka. Moreover, Ivan's activity seemed to provoke Luka to express the behaviour we expected from students with higher competences in successful dyads. Namely, Luka's mediation resulted in Ivan's new understanding of the task manifested as aha moment.

Case 6
Participants: experimenter (Exp); Darko and Vuk, male students of grade 8.

Darko (HC) is more competent than Vuk (LC) who regressed on the post-test for 0.29 logits.

Dialogues in this dyad repeat some patterns of communication already shown. Therefore, they will be shortly presented and only one dialogue will be analyzed in a more detailed way. Dialogues are very short and characterized by the absence of argumentative exchange between peers. The reverse socio-cognitive conflict appeared in one of them but it is interesting that Vuk, who proposed the right answer, did not support it by arguments. The more competent student Darko doubts between two answers, which can be interpreted as his inconsistent behaviour. He accepts Vuk's proposal but without asking for an explanation. Three remaining dialogues are also short and dominantly coloured by Vuk's submissive behaviour. In two dialogues Darko offers very obscure explanation of the right answer, but not in one dialogue. Vuk is withdrawn from the communication, he passively agrees with Darko.

Task 1, item 31:
A young woman could not swim because chlorine affected her hair. Although she did not swim she lost weight sometimes and at other times she did not lose weight. Which of the following is true?
- (a) *if she did not swim, she did not lose weight*
- (b) *whether or not she lost weight, she did not swim*
- (c) *even if she lost weight, she didn't swim*
- (d) *sometimes swimming causes you to lose weight, sometimes not*

Excerpt 8

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1. Darko HC:  I think it's b
2. Vuk LC:    yes
3. ((Darko circles b))
4. (13.0)
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 5. Exp:      feel free to discuss it
 6. Darko HC:  it's not b
 7. (10.0)
 8. Darko HC:  but it is, it's certainly b
 9. Exp:      do you agree? ((to Vuk))
10. ((Vuk nods approvingly))
11. Darko HC: it's just a little harder to explain (.)
             it's written that sometimes she was losing
             weight and sometimes not (.)  it's thought
             that  the  weight  wasn't  increasing  (.)  it
             remained the same I think it's b (.) but I'm
             less sure
12. Exp:      what do you think? ((to Vuk))
13. Vuk LC:   the same b
```

This excerpt shows an inconsistent behaviour of the more competent student. Darko has strong doubts and he is not sure about the chosen answer. However, he does not explain his change of opinion. More interesting is the submissive behaviour of the less competent student Vuk, shown in other dialogues as well. Unlike other dyads, where submissive behaviour of a less competent student was related to dominant attitude of their partners, here that is not the case. At least Darko did not show dominance towards Vuk. It seems that Vuk's submissiveness has to do with his passive relation towards the whole situation.

Interaction in this dyad is mainly marked by the submissive behaviour of the less competent student Vuk which makes the conversation very hard. Unlike other cases, such behaviour here cannot be associated with the dominant behaviour of the student with higher competences. Only in one dialogue Vuk is proactive suggesting the correct answer, while his partner Darko selected the wrong one. Though, Vuk did not offer an explanation remaining consistent with his obscure participation in the conversation. Darko's behaviour in the two dialogues can be characterized as inconsistent with his performance on the pre-test because he proposed the wrong answer once being indecisive regarding the right answer.

Discussion and conclusion

The results obtained by the qualitative analysis confirm our expectations regarding the successful dyads patterns. Their conversations are exclusively marked by the presence of productive characteristics. The most salient characteristics of dialogues in the successful dyads are the cooperation (manifested as argumentative exchange) and the joint activity over the process of task solution. This implies an active involvement of both participants in a dialogue. This finding is in line with the results of other investigators who related the progress of less competent students to cooperation and discussion based on arguments (Perret-Clermont, 1980; Tudge 1992; Tudge et al., 1996; Kumpulainen & Kartinen, 2003; Rojas-Drummond et al., 2003; Rojas-Drummond & Mercer, 2003; Psaltis, 2005a; Mercer & Littleton, 2007). However, dialogues in the successful dyads were not the focus of our attention. Their presentation was related to the possibility to have a critical base for the dialogue analysis of unsuccessful dyads. In that respect, 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 engagement of less competent students also differs in two types of dyads. In the successful dyads the less competent students actively contribute to the process of task solving. This kind of behaviour is 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 (cases 3 and 6). Actually, one of them was rather passive (case 6). In other two dyads (cases 4 and 5) the students with lower competences were pretty active but their engagement was often blocked by the dominant attitude of their partners.

The productive characteristics do appear in conversations of the unsuccessful dyads, however rarely. It is interesting that their

presence can be connected to the initiative of the students with lower competences. In one case, cooperation occurs as a result of proactive attitude of the less competent student who starts process of a task solving considering each alternative (excerpt 5). In other cases, the student with higher competences manifests mediating activities towards his partner, but after the situation when he has already started with an answer explanation without any consultation with his peer. Only after he notices that his partner still reads the task, trying to understand it, he provides help and an adequate guidance (excerpt 7). Although the productive characteristics of the dialogue appear occasionally it seems that the prevalence of hindering characteristics is crucial for the regression of the students with lower competences. Furthermore, the very absence of productive characteristics in communication between peers in the unsuccessful dyads is significant because it can also be connected to the regression of the students with lower competences. For example, students with higher competences very often did not give an explanation of a proposed answer. Investigators of peer interaction found that students with lower competences did not progress after the interaction if their more competent partner did not explain his/her actions and opinions (Mugny & Doise, 1978; Tudge et al., 1996). Similar research findings can be given regarding the absence of shared cognitive conflict and very rare appearance of cooperation and mediation. In that way, students with higher competences were not good models for their peers and did not make a contribution to gaining and building proper reasoning skills of their less competent partners.

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. 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 dominant attitude of more competent students prevents manifestation of characteristics we labelled as productive, such as cooperation, shared understanding or shared socio-cognitive conflict. In some situations it causes the submissive uncritical behaviour of their partners who passively agreed, did not question their opinion and even withdrew from the interaction (excerpts 3 and 4). In other situations, when students with lower competences show an initiative and propose correct solutions, the dominant attitude of their partners discourages that initiative and makes them to agree with a wrong answer (excerpt 6).

Students with higher competences from the unsuccessful dyads frequently manifest an inconsistent behaviour, regarding their competences and results obtained in the pre-test. They are often insecure about the right answer or even propose the wrong one. It is possible that the experience with a more competent peer who was confused or even regressed in comparison to his competence level can cause a regression of their partners as well. That would be in accordance with Tudge's (1989) finding that students with lower competences did not progress after the interaction with their more competent peers who were insecure regarding the right task solution.

It has been emphasized that the participation of students with lower competences in the conversations within unsuccessful dyads differs. Some of them are submissive or passive while others show much more initiative. It is interesting that the less competent students in two unsuccessful dyads who had an active role in a dialogue actually proposed correct answers on the majority of tasks (cases 4 and 5). As we suggested, it can be interpreted as a result of developmental process that occurred after the pre-test, but it can also be caused by other unidentified factors. If developmental processes occur, the regression of the less competent students on the post-test can be a result of instability of the new cognitive structure. However, it can also be connected to their partner's behaviour, i.e. to the presence of the dimension we called *inconsistent behaviour of more competent*

student. The phenomenon that less competent student proposes the right answer and his/her more competent peer the wrong one has been labelled as *reverse socio-cognitive conflict*. Instead of socio-cognitive conflict and mediating role of the students with higher competences, in the two unsuccessful dyads we mentioned their actions are opposite. Therefore they did not contribute to the process of the new structure stabilization in their partners. On the contrary, their behaviour is misleading and sometimes supported by a dominant attitude which prevents stabilization and further development of new forms of thinking in students with lower competences. Dominant behaviour of both participants and indifference are not registered in conversations in the unsuccessful dyads.

Finally, it is important to emphasize that each unsuccessful dyad has its own dynamics, which additionally contributes to our understanding of the patterns of interaction resulted in the regression of students with lower competences. Obviously, both participants are important for interaction effects. Dominant or inconsistent behaviours of students with higher competences sometimes cause withdrawal of their partners, and sometimes block their initiative and constructive activities. In other cases, the passive behaviour of the less competent students prevents meaningful joint activity and possible productive role of their partners in that process.

Qualitative analysis of dialogues between peers that were followed by regression of the less competent one has shown that the interaction is a complex process. Its outcome depends not only on cognitive characteristics of participants but also on behaviour of both partners, as well as on the social aspects of their relationships. Different patterns of interaction that occurred in dialogues of unsuccessful dyads can also be seen in the light of certain educational implications. Although majority of research has been oriented towards concrete-operational thinking, there are authors who consider possibilities for encouragement of formal-operational skills in the school context. Kuhn (1988)

emphasizes that educational goals themselves should be more oriented towards development of formal operations. Webb (2001) explicitly mentions the importance of peer influence in classroom in supporting formal-operational thinking. He highlights the significance of more competent peers as role models and mentors whose language is more understandable to their peers than the teachers'. He considers the discussion among students whose cognitive capacities differ as the great source for the construction of new cognitive skills in less competent students. The aforementioned remarks are important and should be followed, but teachers should be careful in their realization. As the results of this and previous research have shown, it is not enough to organize discussions among students with different cognitive capacities. It is important to anticipate and to eliminate conditions that could prevent positive effects of asymmetrical peer interaction. The results of our qualitative 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. This means that a teacher should carefully select students and form groups for joint problem solving or discussions having in mind that the more competent participants should be those whose cognitive capacities are developed and stable, who does not have dominant attitude toward peers and who are interested in helping others in a way that they are ready to explain their actions and opinions. On the other hand, the less competent students should also be ready to participate and to question other's ideas. If it is for some reason impossible to follow these suggestions then, accordingly to our results, it is better to explore other ways of formal operations encouragement than to create unproductive students groups that would lead to regression of the

less competent participants. At the end, we would like to mention Webb's opinion that the more competent students can also progress after the interaction with their less competent peers. In this research we were focused on the less competent students but in order to analyze and understand peers interaction as a whole it is necessary to consider its influence on both participants. In that respect, our future analysis will be devoted to the effects of asymmetrical interaction on the more competent students.

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Chapter 3

"I'll accept, but next time you'll have to listen to me!" How seven-year-olds read together[1]

Nevena Buđevac

The topic of children's talk in the school context has been in focus of numerous studies during the last decades. The problem was tackled from different theoretical and methodological traditions. The aim of some researchers was to deepen the understanding of the way children talk by putting the talk in the focus of the analysis (Mercer & Littleton, 2007). Other studies focused on understanding the patterns of communication, which led to particular learning outcomes (Schwarz et al., 2000; Light & Littleton, 2004), or on finding contextual factors that could influence the effectiveness of children's talk on later individual/group performance (Sorsana & Musiol, 2005). The study presented in this paper is addressing children's talk during the joint work in the school context, focusing on the dynamics of the dialogue, exploring the ways in which children's initially different answers converge to the joint one. Taking the perspective that learning is a social process, our aim is to empirically explore how two children, starting from different

points of view on the answer on reading comprehension items, dialogically build a joint answer.

Reading competence development

According to nowadays definitions, reading literacy is perceived as a key competence, not only for somebody's academic success, but more broadly for the productive participation in the modern society (Kirsch et al., 2002; Cole et al., 2004). Particularly, reading literacy includes not only the ability to decode written text and to literally understand its meaning, but also the ability to use various kinds of knowledge and skills, that are developed and used within different educational contexts as well as within everyday life activities (Pavlović Babić & Baucal, 2009). Thus, modern definitions of reading literacy competence especially stress that it consists of numerous skills regularly used within everyday activities, such as linking different information, analyzing and comparing different sources of information, noticing the details within presented data, understanding the main idea of someone's talk, making different predictions (Moffet & Wagner, 1983; Kirsch et al., 2002).

With regard to the development of reading competencies, there are two processes that are recognized as basic, thus the first two to be developed: decoding of written text and its understanding (constructing the meaning of the text that is decoded) (Cole et al., 2004). At the beginning of systematic learning to read (during the first years in elementary school), children learn the arbitrary system of signs and its correspondence with the sounds of the spoken language. When the decoding of the text becomes automatic, it opens the possibilities for the child to think about the text while reading it, which leads to promotion of the text comprehension. This development allows moving from the starting reading literacy

developmental level (learning to read) to the next one – reading for learning (Cole et al., 2004). This shift in reading literacy development is a key one for the child's overall educational success, as well as for his/her successful and efficient participation in different everyday activities.

For the reasons that have just been presented, encouraging and supporting the reading literacy refinement is considered as one of the key educational goals across different educational systems all over the world. It is also the focus of many large international studies (PISA, PIRLS) whose aim is to test and compare the abilities of educational systems to efficiently foster reading literacy development. One of the important strengths of these studies is that they have the capacity to include various variables in order to understand the way they are associated with students' performance on reading literacy test. Although it broadens our understanding of the favourable context for the reading literacy development, one of their weaknesses is that they do not capture the dynamics of reading literacy skills' development. For that reason, combining the knowledge gained within this kind of studies with the ones that can offer a micro view on the way children deal with written texts can be of great importance. As has already been said at the beginning of this chapter, this study is focused on the way children talk about written texts in order to complete reading comprehension tasks. Particularly, our intention is to understand the paths of text meaning negotiating between seven-year-olds, who are at the very beginning of systematic process of reading competence development[2] (which means that they are mostly still struggling with the process of the text decoding). In other words, the request to think about the meaning of the written text requires significant effort from seven years old. At the same time, by asking children to think together about these texts embraces,

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[2] Within the Serbian school system students enter primary school at the age of seven.

among other things, the process of coordinating own activity with the activity of the other. In the next part we intend to introduce relevant theoretical and empirical knowledge about children's joint work in the educational context.

Learning through peer-interaction

Taking the perspective that the cognitive processes are socially embedded (Vygotsky, 1962), we go along with the idea that social interaction should not be considered just as a stimulus to individual thinking but as a social mode of thinking (Mercer & Wegerif, 1999). Learning is, thus, a process of participation in a communicative, social process of knowledge construction rather than an individual effort (Vygotsky, 1978). Thinking together or *interthinking* (using the term introduced by Mercer, 2000) includes different processes of co-construction of meanings, such as sharing the understanding by proposing ideas and explaining the reasoning to the partner, questioning proposed ideas, repairing misunderstandings, and so on.

Although the importance of peer interaction has been primarily neglected within Vygotskian tradition, its great developmental and educational potential has lately been recognized by the scholars. As one of the key thesis about the possibilities to foster development of new competencies within the interaction between partners at the same developmental level (symmetrical interaction), authors emphasize the social and cognitive parity of the partners. The idea, originally introduced by Piaget (1995), is that the interaction based on equality between partners encourages development of co-operation. As there is no knowledge imposed by the more competent partner from the beginning of the dialogue, partners are more ready to discuss different points of view, thus the dialogue is more open for negotiation and redefinition (Sorsana,

2008). On the other side, certain studies revealed that within the child-adult dialogue the adult takes the initiative, tracing the direction in which the task solving goes, directing the interaction path in that way (Jovanović & Baucal, 2007). For that reason, the role of the child appears to be more passive than it is the case within the peer interaction (Jovanović & Baucal, 2007). Bearing this in mind, some authors underline that studying interaction between peers allows us to understand in more details how the understanding of the task is gradually formed by children (Grossen, 1994; Sorsana, 2008). Taking into consideration the focus of our study, we would like to add that it also offers the opportunity to trace the ways in which negotiation of the meanings goes on within interaction.

Nevertheless, even though it was assumed that symmetrical peer interaction fosters the co-operation between partners, numerous studies have shown that the collaboration is rarely built spontaneously, hence that children need some additional instruction in order to be able to collaborate (Crook, 1995; Mercer, 2000; Littleton & Mercer, 2010). In addition, it is stressed by other authors that it is questionable whether the goal of the children who are faced with the request to solve a task together is really to cooperate (Grossen, 1994; Light & Littleton, 2004). Grossen (1994) has stressed that this kind of situations can have a variety of different meanings for the children enrolled. Having this idea in mind, one can argue that children enter the conversation usually with different ideas about the way a task should be solved, as well as with possibly different goals/meanings of the situation and its context (Light & Littleton, 2004). As Tartas and Perret-Clermont (2008) pointed out, there are numerous ways in which the same task is understood by children, and partners do not always manage to agree on the definition of the situation. Thus, the constructed meanings concerning both interwoven dimensions (cognitive and social) have to be negotiated among partners.

Talking further about the social relationship among partners within interaction, it should also be noted that, contrary to the presented theoretical assumption claiming social parity among partners within symmetrical interaction (Piaget, 1995), there are empirical data showing different patterns of asymmetry in the way children are positioned within interaction. This asymmetry in social positioning appears as a talk in which one child dominates the discussion in such a way that the other(s) become quiet and withdraw from the activity, or one child tries to ignore the partner, creating the competitive atmosphere or trying to control the interaction in some other way (Mercer, 2000; Littleton & Mercer, 2010).

Trying to make an integrated approach to learning and collaboration, Roschelle (1992) points out that the convergence of meaning can be a result of collaboration among participants (collaboration provides a mechanism for the achievement of convergent meanings). He defines the collaboration as a process that gradually can lead to convergence of meaning. In this chapter, our intention is also to highlight some other ways in which the convergence of meanings can take place. It is important to note that this convergence on the level of the dialogue does not mean that it is achieved at the level of thinking as well, but it seems that children are in some cases just ready to accept the other's proposals to please the partner/experimenter or for some other reason. Focusing on the convergence of meanings among partners, our aim is to look at particular interventions done by partners within conversation, in order to understand which interventions are taken as the relevant ones by participants and resulted in the convergence of ideas. We expect to identify different social (e.g. positioning in relation to the other), as well as cognitive reasons (e.g. the use of argumentation in order to support one point of view or to weaken it) for the acceptance of the other's point of view. Therefore, we try to highlight different ways in which the process of dialogical building the answer is taking place and to

analyze in details some of them. Focusing on children's talk while they are negotiating about the joint answer initially starting from different points of view is of great importance from the perspective of developmental as well as educational psychology, given that the difference in opinion is one of the major factors influencing the opportunities for cognitive and knowledge growth (see, for example, Doise et al., 1975).

The study design

The study had two phases – individual pre-test and dyadic interaction. During the first phase, 149 seven years old children from two primary schools in Belgrade were tested by reading comprehension items. For the purpose of the study 41 different items were used. All items were taken from books regularly used in some schools in Serbia (*Language schools 1* and *Language schools 4*), but not in the schools participating in this study. Within the set of items, each child was tested by a selected group of 11-12 items. The tasks presentation was balanced, so that each item was seen by the randomly selected subgroup of children. At the same time, items were combined in blocks of similar difficulty level, so that each child was faced with a set of items of similar difficulty. The pre-test results were used as a source for: (1) the construction of a developmental reading competence scale by using the IRT (Item Response Theory) analysis; (2) the selection of children pairs for the interaction phase based on their position at the reading competence scale; (3) the selection of the interaction phase tasks which were a bit above children's individual performance on the pre-test, based on their position at the reading competence scale.

For the main phase of the research, 16 pairs of children with the same score on the pre-test were selected. During the second phase each child was firstly asked to work individually on 5 selected items which he/she did not see in the pre-test phase.

Immediately after, the child was asked to participate in joint solving of the same 5 items with another child. They received the instruction to discuss and to reach an agreement about the correct solution of the items. All the interactions were video recorded and transcribed[3].

For the present study we selected 45 sequences (hereafter "the data"). Some of them include the situations in which two children started the discussion from different points of view about the possible answer; in some other cases, one of the standpoints[4] remained unstated.

Results

The analysis of data reveals the presence of five categories, as different kinds of interventions used by children in order to persuade the peer to accept a certain point of view. After a brief presentation of the situations in the table 1, we offer different examples of analysis done with regard to the following categories:

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[3] In addition to the transcription symbols that are used in this book, in this chapter we insert further conventions: 1) the part of talk that refers to children's reading during the task is in italic. Consequently, the comments added by the transcriber in double parentheses in order to clarify some elements of the situation will be not in italic, as it is the case in the transcription system adopted in this book; 2) by the symbol ⊖ we indicate the hesitation of the speaker.

[4] A standpoint is a claim, initial assertion, proposed by a speaker, which is open for a review and can be justified by an argument.

Table 1. Identified categories and subcategories

CATEGORY	SUBCATEGORIES
(1) Argumentation One child uses arguments and tries to elaborate a point of view by referring to the text, or by using previous knowledge	(1a) the child uses arguments in order to sustain his/her own perspective (1b) the child uses counter-arguments in order to attack and to make the other's point of view weaker
(2) Social positioning Both children express their standpoints, but without any elaboration. Only sometimes one child tries to question the standpoint of the other child, but not in order to support his/her own. At the end, one standpoint is accepted as a result of different possible interventions	(2a) one child closes the space for discussion by explicitly rejecting the other's standpoint (e.g. saying "no, it's not good" or writing his/her own answer) (2b) children agree to take one of the two given points of view after the explicit solicitation of one child (e.g. asking "which one we should choose") (2c) one child enforces his/her point of view by positioning himself as the one who knows more or better (e.g. saying "I know the best, I am right")
(3) Going back to the text Children go back to the text and use it as a source for checking the standpoint(s) at stake	(3a) children go back to the text in order to reach a common standpoint, without previous elaboration or questions (3b) after one child expresses the standpoint, the other checks it (going back to the text, reading it, thinking about it), engages in discussion about the possible solution and then accepts the other's standpoint

(4) Acceptance without discussion One child proposes the answer and the other child immediately accepts it, without expressing his/her own standpoint	(4a) one child claims his/her standpoint and the other child avoids to express an opinion about the previous standpoint of the other child (e.g. saying "I don't remember what I have written before") (4b) one child does not leave the space for the other child to express an opinion about the standpoint at stake
(5) Dealing with one standpoint One child expresses a standpoint and the other child tries to question it, but without giving an alternative. Finally, children remain with the standpoint that has been stated (even if sometimes they are aware that the answer they have given is not correct)	*no subcategories have been identified within this category*

As could be seen from the following chart 1, the frequency of the second category is much higher than it is the case with others.

In the following part of the chapter we present four situations as examples of the variety of alternative options we have found. The criterion for selecting the excerpts has been the opportunity to get the detailed insight not only into very frequent situations (as it is the case with the category 2), but also into some low frequent cases, highly relevant from the point of view of literacy development (like the category 3).

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Chart 1. Frequencies of identified categories
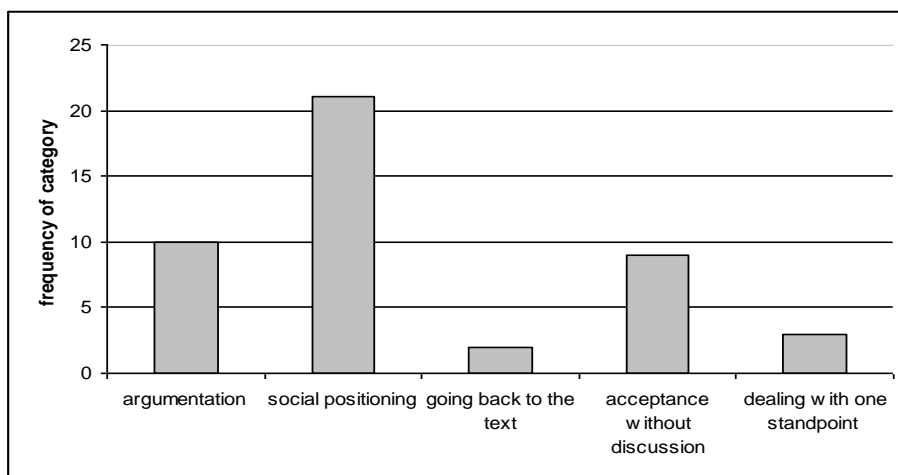
Specifically, we present the subcategories 1a, 1b, 2a, and 3b. Since numerous items were used in the study, each example firstly includes the presentation of the item and then the excerpt of the recorded interaction (see Chart 1).

Category (1a). The child uses arguments in order to sustain his/her own perspective

The following excerpt is an example of the situations in which one child uses arguments and elaborates presented point of view by referring to the given text. In this particular case children were asked to look at a given timetable and to answer the questions about its content. The proposed item is presented in the figure 1.

The first example shows how the use of arguments (in order to sustain a point of view) can lead not only toward an acceptance of that point of view, but also toward a change in the way the joint activity is performed.

Figure 1: Item "Timetable"

TIMETABLE				
This is the I₂ class' timetable in one primary school. Read it carefully and answer the following questions				
I₂ TIMETABLE				
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	Mathematics	the Serbian language	Mathematics	the Serbian language	Physical exercise
2	the Serbian language	the world around us	Religious education	Mathematics	the English language
3	Physical exercise	Mathematics	Physical exercise	Art	the Serbian language
4	Music	Civil education	the Serbian language	the world around us	Mathematics

What is RIGHT and what is WRONG according to the timetable?

On Wednesdays the class I₂ attends Mathematics course	RIGHT	WRONG
On Fridays the class I₂ has got three classes	RIGHT	WRONG
During the second class on Mondays, the class I₂ attends the Serbian language course	RIGHT	WRONG
During the last class on Fridays, the class I₂ attends the Mathematics course	RIGHT	WRONG

Excerpt 1

Participants: experimenter (Exp); Milan (a boy, 7 years, 3 months); Jovan (a boy, 7 years, 5 months)

According to the pre-test performance both children are categorised as low-level readers. During the individual task solving, which took place just before the conversation, Milan did not solve the task correctly, but Jovan did.

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1.  Milan: ((looks at the experimenter)) I know it by
           hart
2.  Exp:   mhm (.) well explain to Jovan agree together
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3.   Jovan: ((looks at the paper)) [this ye:s]
4.   Milan:                        [wait wait] it is not
             yes
5.   Jovan: yes yes yes no (1.0) this is yes
6.   Milan: it is not ((circles))
7.   Jovan: ((reads the task very quietly)) (        )
8.   Milan: let's this ((points at the next task))
9.   Jovan: ((whispers)) during the sec second class
             attends the Serbian language course ((looks
             at the table; points at the table)) (6.0) e:
             (.) but this is ri::ght (.) because you see
             that they attend the Serbian language course
             ((points at the table)) during the second
             class
10.  Milan: ((looks   at   the   paper;   smiles))   ah
             ((affirmative))
11.  Jovan: this is right
12.  Milan: ((erases   the   answer   which   he   has   written
             before))
13.  Jovan: only this wrong ((points at the paper)) that
             is right (.) right and (.) circle that (1.0)
             circle that
14.  Milan: ((circles)) and this?
15.  Jovan: ((looks  at  the  table))  this  (.)  this  i:s
             (1.0) this is right
16.  Milan: ((circles)) becau::se=
17.  Jovan: =and why have you circled this ((pointing at
             the   paper   while   talking))   right   wrong
             ((following   Jovan's   suggestion,   Milan   has
             corrected the answer, but has not erased the
             one he had previously written, so there are
             both answers circled in one line))
18.  Milan: a:ha
19.  Jovan: ((takes   the   rubber   and   erases))   this   you
             should erase (2.0) this you should erase and
             that's it (.) and this i:s right ((points at
             the  paper))  (.)  that's  right  (.)  and  now
             this ((points at the next task))
20.  Exp:   m? have you finished this
21.  Milan: ((looks at the experimenter)) no
22.  Exp:   m? have you answered=
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23. Milan: =yes we did this ((points at the task they
           have just finished))
24. Exp:   mhm (.) what have you answered just before
           you go on explain me what you have agreed on
           m?
25. ((somebody has entered the room and said "excuse
    me"; both children look in the direction of the
    door and wave))
26. Exp:   it's ok (1.0) freely take what you need (.)
           m? can you tell me what you have circled
27. Milan: ə: (.) we have circled i::n the second (.)
           no:: and in the third yes (.) a::nd in the
           forth yes
28. Exp:   mhm and why have you circled exactly like
           that
29. Milan: we were looking at the timetable
30. Exp:   mhm (.) do [you agree] ((addresses Jovan))
31. Milan:           [he was looking] at the timetable
           and I was circling
32. Exp:   a:: ok (.) ok
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At the beginning of the dialog the children express their points of view – Jovan gives his own in turns 3 and 5 and Milan rejects it. Milan gives his standpoint by circling the answer he finds appropriate (turn 6). It seems that Milan does not intend to discuss with Jovan, which he also expresses by pointing at the next item (turn 8). Thus, he tries to close the activity around this item. However, immediately after, Jovan tries to sustain his point of view which was expressed before. He refers to the timetable and says: "*but this is right, because you see that they attend the Serbian language course during the second class*" (turn 9), pointing also at the appropriate part of the timetable. As a result of this intervention, Milan not only accepts Jovan's perspective (turns 10 and 12), but he is also willing to cooperate and to hear the opinion of the other child. This change in Milan's position is firstly expressed as a question addressed to Jovan in turn 14: "*and this?*" and after that Milan follows all the suggestions provided by Jovan. Another sign of this joint

activity built during the dialogue is the turn 31 in which Milan answers a question addressed to Jovan, in order to highlight their common work ("*he was looking at the timetable and I was circling*").

This excerpt is an example of how the argument is used not only as a way to persuade the partner to accept particular point of view, but also as a way of personal positioning as an authority that should not be excluded from the decision making. The excerpt also shows the possibility of a substantial change in the way the activity is performed. In fact, even if the child was trying to work individually, after the other child's standpoint was supported through argumentation, he was moving to a more collaborative participation.

Category (1b). The child uses counter-arguments in order to attack and to weaken the other's point of view

The excerpt that follows is an example of another subcategory within the same category as the previous one (the use of arguments). What characterises this subcategory is the use of a counter-argument as a tool for changing the other's perspective. The second example includes the item which requires the children to identify, among given pictures, the person that is described in the text (Figure 2).

Excerpt 2

Participants: experimenter (Exp); Dule (a boy, 8 years, 2 months); Marko (a boy, 7 years, 11 months)

Both boys were categorized as middle-level readers according to their individual pre-test results. During the individual task solving that was performed just before the

dialogue presented below, Dule solved the task, but Marko did not managed to do it.

Figure 2: Item "The thief"

THE THIEF

Three children saw the thief stole the book from the shop.
The first child saw that the thief had moustaches. The second child saw that the thief had glasses, and the third one saw that the thief was bald

Find the thief among the pictures.
Circle the letter below the picture of the thief

A   B   V   G   D

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1. Dule:    Ə (0.5) you are going to read ((looks at
            Marko))
2. Marko:   ok ((nods))
3. Dule:    let's (.) read
4. Marko:   three children saw the thief s (.) s stole
            the book from the shop (.) the first child
            saw Ə (.) that the thief had moustaches
            (1.0) the second child saw that the thief
            had glasses and the third one saw that the
            thief (.) was b (.) al (.) d (.) find the
            thief among the pictures (.) circle the
            letter bellow the picture of the thief
5. Dule:    ((circles the answer g)) here it is (1.5) we
            have circled (.) now the next ((starts
            turning the next page, but Marko stops him))
6. Marko:   it is (.) there are two more (.) read
7. Dule:    m?
8. Marko:   three children saw     [the thief]
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9. Dule:                          [well yes] I know (.)
        I read it ((turns the page)) [I   was   doing
        it]
10. Marko:                        [but   you   have
        everything] you have everything (.) all of
        this that I told you ((turns the page back))
        this you (.) look
11. Dule:  what
12. Marko: and thi:s ((points at the picture a)) and
        this ((points at the picture v))
13. Dule:  [well I know]
14. Marko: [and him] (.) her and these two ((having in
        mind the picture Dule has already circled as
        well as other two which he proposed to be
        circled))
15. Dule:  yes (.) well ye::s
16. Marko: well circle these ((referring to pictures a
        and v))
17. Dule:  this one does not have the moustaches
        ((points at the paper)) this one has the
        glasses ((points at the paper)) this one was
        bald ((points at the paper))
18. Marko: well he said (1.0) ə
19. Dule:  well this one is ((points at the paper))
20. Marko: the second child saw that the thief had
        glasses
21. Dule:  well this one has glasses (0.5) and this one
        has glasses and the thir third and the
        second child saw that he had mous[taches]
22. Marko:                                  [yes]
23. Dule:  this with moustaches and this one without
24. Marko: ((turns the page, smiles))
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The excerpt 2 illustrates a situation in which the use of counter-arguments is aimed at attacking the other's point of view. In turn 5 Dule expresses a standpoint by circling an answer which he does not try to elaborate or to talk it through with Marko (while he attends to go on working on the next task). However, Marko prevents him from continuing (turn 6), expressing his standpoint that, apart from one picture chosen

by Marko, there are two more to be circled (turns 10, 12 and 14). As a reaction, Dule gives a counter-argument to Marko's proposal, saying that one of the pictures he has chosen does not fit to the description in the text, because "*this one does not have the moustaches*" (turn 17). Then, Marko refers again to the text (turn 20) saying that the thief has glasses. This intervention obliges Dule to give further elaboration of his standpoint (turn 21). Finally, Marko accepts it – in turn 22 he explicitly says "*yes*" and immediately after (turn 24) he turns the page which can be potentially taken as one more sign of his acceptance, as it is alternately used by participants during the dialogue as a form of communication act aimed at closing and opening the space for discussion (turns 5, 9, 10 and 24).

Firstly, we can note that the use of counter-argument leads to the change of the other's opinion. In addition, when a counter-argument is used after expressing the difference in opinion, it can produce further elaborations. Thus, it is interesting that Dule showed the ability to finely adapt his intervention to the actions of the other child by adding one by one all the elements of his standpoint, as he was invited by the partner. This is in accordance with the idea that argumentation is a process co-constructed within interaction, rather than a result of the interaction itself (Kuhn et al., 1997; Arcidiacono & Perret-Clermont, 2009).

Within our data we found a regularity concerning the use of argumentation as a reaction on difference in opinion. However, we did not found any examples in which a child expresses a standpoint immediately offering an argument to support it. This is interesting because it gives us an insight into the way argumentation is understood by seven years old children. It could also be a result of their difficulties to anticipate the fact that the other can have a different point of view, which is expected at the age of seven. The fact that both excerpts 1 and 2 start by circling the answer the child finds appropriate without trying to discuss it with the partner could be taken as an

additional sign of that difficulty. There were no examples in which both children provided arguments and explanations for their standpoints, but we always found the same pattern – as soon as one child provides an argument for the stated point of view, it is accepted by the other (regardless of its correctness).

Category (2a). One child closes the space for discussion by explicitly rejecting the other's standpoint

The next excerpt concerns a situation in which the agreement is reached after one child closes the discussion by rejecting the point of view given by the partner. In this case, there are no attempts to elaborate and to sustain the point of view or to attack the other's by offering an argument. As could be seen from the Figure 3, in this case children are asked to find the information that is given in the table.

Figure 3: Item "Food menu in Janko's kindergarden"

FOOD MENU IN JANKO'S KINDERGARDEN For Wednesday		
MEAL	**TIME**	**WHAT DO I EAT**
BREAKFAST	8 a.m.	ORANGE JUICE CEREALS WITH YOGHURT
SNACK	11 a.m.	AN APPLE
LUNCH	2 p.m.	SOUP SALAD FISH AND POTATOES BREAD
DINNER	7 p.m.	MILK BREAD AND JAM
How many meals does Janko have during the day?		

Excerpt 3

Participants: experimenter (Exp); Nina (a girl, 7 years, 9 months); Maja (a girl, 7 years, 6 months)

According to the pre-test performance both children were categorized as middle-level readers. During the individual task solving that took place just before the joint task solving, both girls offered a wrong answer on the presented task.

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1. Nina:    who will speak (.) I will= ((both children
            look at the paper))
2. Maja:    =I will I will give me ((takes the pencil
            from Nina's hand))
3. Nina:    let you
4. Maja:    I had written Janko (.) had ə six meals (.)
            [had during the day (.) and you?]
5. Nina:    [I was (.) ə (.) how] many meals does Janko
            have during the day I wrote during the day
            Janko has ə that and that number of meals
            (.) shall we do it like that ((looks at
            Maja))
6. Maja:    I mean how many did you cou::nt
7. Nina:    I counted all of this ((points at the paper
            referring to the numbers from the table in
            the time column))(1.0) [and you]
8. Maja:                            [you are] all (.) I
            counted only ə ((points at the paper)) an
            a:pple: juice and that [orange juice this]
9. Nina:                            [no (.) I was] shall
            we count everything ((points at the paper))
10.  Maja: no ((shakes the head and makes the hand
            gesture for rejection at the same time))
            (1.0) you ə six ok I will write ((starts
            writing)) (5.0)
11.  Nina: ((looks at the paper)) is
12.  Maja: ə now I cannot remember how I had written
            ((smiles)) [((sighs))]
13.  Nina:            [Janko had]
14.  Maja: Janko i:::::::s Janko has (2.0) Janko is
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15.    Nina: Janko ate s ə ate six meals is it  [ok]  that
             way
16.    Maja:                                   [yes]
             ((starts    writing))    ((whispers    while
             writing)) Janko has (5.0) six
17.    Nina: we are going to be here (        )    ((Maja
             is still writing)) (2.0) ((looks at Maja))
             (2.0) it doesn't matter (4.0) ((looks at the
             paper while Maja writes)) like that
18.    Maja: o::::::::: meals ((both children laugh
             because Maja made a mistake writing wrongly
             the last letter of the word; Maja erases the
             mistake))
19.    Nina: meals ((both children look at the paper;
             Maja writes)) (1.0)
20.    Maja: ok ((writes)) (1.0)      [yes]
21.    Nina:                          [full stop]
22.    Exp: mhm  [what]  did  you  write  (.)  how  many
             meals does Janko have
23.    Maja:      [ə:] six ((both children look briefly
             at the paper and then at the experimenter))
24.    Exp: mhm (.) why six how (0.5) did you come to
             that
25.    Maja: because=
26.    Nina: =because we ((points at the paper)) c:: c ə
             counted all of this one plus one plus one
             plus one and that way we counted everything
27.    Exp:  come on just show me what were you counting
28.    Maja: ((both children look at the paper; Maja
             points at the paper with a pencil)) we were
             counting juice this a::nd    [cereals]
29.    Nina:                              [cereals]
30.    Maja: with  yoghurt  (.)  we  were  counting  apple
             count counted soup salad salad fish (.) and
             potatoes and bread (.) milk bread and jam
             (0.5)
31.    Nina: nothing else=
32.    Maja: =we also counted dinner as the sixth
33.    Exp:  it is six in total?
34.    Maja: yes (1.0)
35.    Exp:  mhm do you agree (.) Nina
36.    Nina: yes
```

```
37.   Exp:  ok (.) thank you
```

At the beginning of the excerpt 3 there are two standpoints – Maja claims that the number of the meals is 6 (turn 4) and Nina says that they should count the numbers from the second column of the table (turn 7). It is interesting that, after Maja continues with the elaboration of her point of view (in turn 8) Nina expresses some doubts about her own, saying "*shall we count everything?*" It is a sign that she still remains with her previous standpoint, even though at the same time she asks the other girl for an opinion (instead of strongly claiming that her standpoint is correct). It is worth noting that she uses an interrogative form ("*shall we count?*") which is a signal that she needs a confirmation for her opinion from the other girl. The use of the plural "*we*" can be seen as a sign that she considers the activity as a joint work in which the responsibility for decision making has to be shared. However, Maja does not follow that attitude: she acts without leaving any space for Nina to further participate in the process of answering the question. Thus, in the turn 10 she rejects Nina's proposal without trying to discuss with her or to further elaborate the two standpoints. She says "*no*" and makes the rejection gestures by head and hand, announcing also that she will write her answer as a joint one. From turn 15 onwards, Nina accepts Maja's standpoint, without questioning it or further trying to explain her previous one.

This example shows one more way in which the convergence of ideas can take place. In fact, children try to enforce their points of view by different kinds of interventions: they are not oriented toward the content of the item (as it is the case in situations in the category 1), they are rather constrained by some social dimensions of the interaction. In particular, we found the following social dimensions: the dominance in relation to the other, the social positioning, and the attitude to avoid a conflict. As a result, children seem to be more ready to

accept the other's point of view, even when there is no argument or explanation offered by the peer.

Category 3b. Using the text to check the other's standpoint

Finally, we present an example of the situations in which the joint answer is a result of a checking process that includes repeated reading of a text. The proposed item is presented in the figure 4. It requires the children to put the given sentences in the proper order.

Figure 4: Item "Frogs' hopscotch"

<table>
<tr><td colspan="2" align="center">**FROGS' HOPSCOTCH**</td></tr>
<tr><td colspan="2" align="center">**Write the appropriate number from 1 to 5 in the circle in front of every sentence, in order to get the correct order of the *Frogs' hopscotch* playing instructions**</td></tr>
<tr><td>◯</td><td>The player firstly hops over to the first dark square with both feet placed down</td></tr>
<tr><td>◯</td><td>Players indicate with an arrow the side of the square from which the game starts</td></tr>
<tr><td>◯</td><td>Spreading the legs while hopping, the player at the same time places both feet in dark squares in the second row</td></tr>
<tr><td>◯</td><td>One big square is drawn on the ground and divided into nine equal squares</td></tr>
<tr><td>◯</td><td>On each side of the big square each of the middle squares is darkened</td></tr>
</table>

Excerpt 4

Participants: experimenter (Exp); Milica (a girl, 7 years, 2 months); Jelena (a girl, 7 years, 1 month)

According to the pre-test performance, both girls were categorized as middle-level readers. During the individual task solving that took place just before the joint task solving, Jelena solved the task correctly, but Milica did not.

```
1. Milica:  let's go on
2. Jelena:  I think that I=
3. Milica:  =come on=
4. Jelena:  =I think that I ə
5. Milica:  [come on write]
6. Jelena:  [this is one] this two this (.) ə three this
            four ((points at the paper while speaking))
7. Milica:  no=
8. Jelena:  =no
9. Milica:  here it had already been written=
10. Jelena:=yes (.) this four this five ((points at the
            paper))
11. Milica:[let me see]
12. Jelena:[I think I did that way]
13. Milica:let me see let me see (1.0)
14. Jelena:here is yes (.) here I put one (.) ((points
            at the paper)) two (.) three (.) four (.)
            five
15. Milica:wait wait let's see ((makes a hand gesture
            meaning "stop" – raises a palm)) let's see
            one big square is drawn on the ground and
            divided on nine equal (.)      [squares]
16. Jelena:                                [squares]
            ((quietly))
17. Milica:((writes))
18. Jelena:((whispers)) one
19. Milica:ə:: now you ((gives the pencil to Jelena))
            (1.0) write=
20. Jelena:=on each (.) side of the big=
21. Milica: =square square (1.0) each
```

```
22. Jelena: each
23. Milica: of the middle=
24. Jelena: =of the middle
25. Milica: [squares]
26. Jelena: [squares]
27. Milica: is darkened
28. Jelena: should we put this as two ((points at the
            paper))
29. Milica: yes
30. Jelena: ((writes)) two (.) this three [this can be]
            four
31. Milica:                               [now     me]
            ((takes the pencil)) wait wait let's see
            ((looks at the paper))
32. Jelena: I think that (.) that's how I did it
33. Milica: wait let's see the player firstly hops over
            to    [the first]
34. Jelena:       [no::::] (.) ou::ch this two ((points
            at the paper)) (1.0) then this three and
            this ə
35. Milica: no this (        ) ((points at the number
            three which had been written in advance))
36. Jelena: ə: yes (.) this (2.0) no all right we will
            do it like this
37. Milica: wait wait ((looks at the paper)) (3.0) wait
            the player firstly hops over to the first
            dark square with both feet placed down
            ((writes the number four))
38. Jelena: and here five
39. Milica: wait ((pulls the paper towards herself))
            spreading the legs while jumping (.) the
            player places (1.0)    [at the same time]
40. Jelena:                        [(    )]
41. Milica: both feet in dark squares in the second row
            ((writes down the number five))   [we   are
            done]
42. Jelena:                                    [we   have
            finished] ((pulls the paper towards
            herself))
```

In turns 2, 4 and 6 Jelena expresses her standpoint and in turn 10 she corrects herself, after the intervention done by Milica (turns 7 and 9). After Jelena expresses her standpoint, Milica takes some time to think about it (turn 11 "*let me see*") and she repeats it again (turns 13 and 15), adding also a gesture to reinforce it. This repetition could be a result of Jelena's continuation in turn 12: "*I think I did that way*". In turn 17 Milica accepts Jelena's proposal, since she writes the number one in front of the sentence Jelena pointed at beforehand. The following turns are interesting because Milica takes the control over the joint work by saying "*now you write*". Jelena accepts and gives the proposal in turn 28. She does not claim it strongly as it was the case at the beginning of the dialogue, but she expresses it as a question addressed to Milica, using the pronoun "*we*" ("*should we put this as two*"). As we have already said talking about the same kind of expressions in the excerpt 3, this could be taken as a sign that she needs the confirmation for her own opinion, as well as an element of considering the activity as a joint one. Milica confirms it and then Jelena makes a new proposal (turn 30). Milica again, as at the beginning of the talk, takes some space to check it (turns 31 and 33) and she corrects Jelena (turn 35). Then Milica further checks Jelena's proposals and finally she writes the answers down, confirmed by Jelena in turn 42.

The analysis of this excerpt suggests a change of the participants' positions during the dialogue: Jelena's initial claims about the answer they should give have been followed by the checking activity done by Milica. However, during the dialogue Milica takes a dominant role: she controls the dialogue dynamics and she delegates to Jelena the task to write the answer. Thus, Jelena asks for the confirmation from Milica (which was not the case at the beginning). We can also make the hypothesis that, in some way, Milica has the position of a dominant partner with the role of giving some kind of

scaffolding to her peer (as she offers to Jelena the opportunity to give the proposal, listen to it and then check it).

Conclusion

In this chapter our intention was to highlight different ways in which the convergence of ideas can take place during children's joint work. Thus, our effort was directed toward understanding which characteristics of the dialogue result in the acceptance of the other's point of view after a divergence occurred at the beginning of a talk. As it has already been said, five different reasons for this acceptance have been identified. To summarize, we have found that the convergence can appear as a result of providing arguments/counter-arguments, social positioning of one partner, the use of text as a "third partner", dealing with only one expressed standpoint or questioning the other's standpoint without proposing any. Before highlighting the most interesting points, we would like to note that we do not consider the proposed categories as an exhaustive list, we rather take it as a description of possible ways in which the convergence of ideas can occur during seven-year-olds joint work.

At the end, there are three main points ensued from the analysis that we would like to stress on. The first one concerns identified effects of argumentation – "cognitive", as well as "social" ones. Namely, using argumentation, as we could have seen, can have a persuasive power (change someone's idea about the task and the way how it should be solved), but even more interesting – argumentation can motivate a partner to change the way he/she defines his/her own position in respect to the peer, as well as the way how to participate in the conversation and to open a space for the joint thinking. This finding brings us back to the idea that cognitive and social dimensions are interwoven within interaction. Thus, the use of

argumentation by our partner influences the way we understand of and think about the task, but also opens the possibility to consider the other as a credible partner and the important one to be taken into account while answering the task. In that way, we become more motivated to build a collaborative orientation and start negotiating constructed meanings even if we had not previously planed to. In our opinion, this highlights the importance of development of argumentative thinking in children from another perspective – from the point of view of development of their capacities to learn together. Therefore, this is not only about the outcomes of joint learning in terms of finding the proper solution, but also about the outcomes concerning social relation among partners and the way the activity is performed.

This brings us to the second important point we would like to emphasize – even though many authors hypothesized that there is a parity among partners in terms of social power within peer interaction (Piaget, 1995; Youniss, 1980), we could clearly see that in two out of four presented examples one child framed the interaction as an asymmetric concerning the social power. In some cases we identified this asymmetry in positioning as a main factor influencing the convergence of ideas (as it is the case with those from the second category), but in many other situations we could make an assumption about the presence of this asymmetry and the way it partly directs the conversation path, as in the case of the fourth excerpt. In that example, even though the children made the decision based on the strategy to go back to the text and check their ideas, in the analysis we have pointed at some markers of asymmetric relation – one child delegates the responsibilities ("*now you write*") or opens a space for the partner to express an idea, listen to it and than check and evaluate it In our opinion, all these interventions could be taken as a support of the already mentioned claim that the social positioning is a result of a negotiating process that

takes place parallelly with the negotiation around the task solution in the interaction.

Finally, we would like to reflect on the third point which concerns just mentioned strategy of making decision based on checking the present ideas by a repeated reading of a text. Although this category is very low frequent within the data, we consider it as highly relevant from the point of view of reading competence development. This strategy could be taken as a sign of important awareness that the text is a relevant source of information, not only as an initial source, but also as a sort of 'dynamic' partner during the reading process. In other words, after reading the text and doing some transformations of the information found within it (e.g. drawing some conclusions, making hypothesis about character's emotions, linking the text content with previous knowledge), children can go back to it trying to test their new ideas. The fact that it is low frequent within this material could suggest that it might be more common among the older children who have reached higher levels of reading competence development. We believe that, for the purpose of better understanding of this competence development, it should be valuable to look for the examples of this kind of the text treating at the ages above seven. In addition, we note that the child who was applying this strategy did not answer the task correctly during the individual work, which can suggest that she had not been using the same strategy to deal with the text. The opportunity to hear a different opinion during the peer work could encourage her to go back to the text and check it. Thus, we can hypothesize that the group work can be encouraging, not only for coming to the proper solution in a particular situation, but even more importantly – for developing and practicing new strategies to approach the problems and treat the text in a different way.

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Chapter 4

How group decision making decreases risk taking in 10 years old children

Smiljana Jošić

Life presents many tasks that can be performed by either individuals working alone or by small groups working collaboratively. One of those tasks is the decision making, the cognitive process of choosing between multiple possibilities (Johnson & Bruce, 2008). It is a process implying the recognition and the evaluation of alternatives that satisfy a certain number of stated goals or criteria. A problem in a decision making occurs when it is necessary to choose a solution that satisfies a complete list of goals. A decision is a choice of an action, of what it is to be done or not to be done. Decisions are made to achieve goals, and they are based on beliefs about what actions will achieve the goals (Boyer, 2006).

The ability to make good decisions is among the most important skills a person can develop (Byrnes, 1998). Competent decision-making involves the ability to correctly anticipate positive and negative consequences (Cauffman & Steinberg, 2000). A task of positive consequences anticipation is not a simple one, due to common confusing factors that indicate certain inconsistency. Successful maintenance of this process is even harder if we engage young subjects as main actors. This process could be observed even narrower, depending on the context of decision making, such as decision making in a risky situation, for example. Risky decision making implies a definition of different outcomes of certain situation which carries danger, uncertainty

and insecurity, and also a definition of possibility of certain circumstances (Mellers et al., 1998). In that way, circumstances are well defined and consistent with a problem, they are not overlapping with each other and they are comprehensive. This kind of reasoning also demands a conditional deduction.

Multiple studies show that adolescents prefer making riskier decisions than the adults (Slovic 1966; Hoemann & Ross, 1971; Byrnes, 1998; Lejuez et al., 2003). Most of research consisted of exploring age differences between adolescents (15-19 years old) and older groups (20-60 years old), showing that the results are always the same (Hoffrage at al., 2003), regardless of the subject of the task (Gardner & Steinberg, 2005), its construction (questionnaire or behavioral task) or situation (laboratory questioning or ecologically more valid situation). In other words, all of the studies suggest that young people evaluate the risk differently than the adults and the evaluation of risky decision is negatively correlated with subject's age. There are different interpretations of these findings. Piaget's followers outlined that safer decision making of adults represents a consequence of development of formal operational thinking (Hoemann & Ross, 1971). Other authors identified a specific cognitive system which had a role in the understanding conditional sentences and which was responsible for such subjects' behaviour (Mandler, 1998). A third group of researches stresses that adults have greater working memory capacity and bigger warehouse of knowledge and that is why they evaluate possible alternatives in a risky situation (Gauffroy & Barrouillet, 2009). In other words, the older the subjects – the more successful in a given situation evaluation they are. They are more cautious and they evaluate the possibility of an outcome in accordance to their experience and knowledge gathered in the realization of such events.

Presence of other people and its influence on decision making in a risky situation was very popular issue during the 70's. Stoner (1961) was the first researcher who systematically explored group decision making in risky situations. He used Choice Dilemmas

Questionnaires (CDQ) in his research. Subjects were always faced with two alternatives, where one was tempting, but riskier. In the task, the subjects were asked to put themselves in the other person's position or to advise him/her how to manage certain situations. Subjects firstly completed the task individually and then they were making decisions in groups, through a discussion. Stoner concluded that people are more ready to make a riskier decision in a group, than when they are alone. He called this phenomenon a *risky shift*. Today, this phenomenon refers to the widely replicated finding that a group is willing to make decisions involving greater risks than individuals who make up the groups. Results similar to Stoner's have been obtained with subjects of different social groups (Feldstein & Washburn, 1980), or ethnicities (Gardner & Steinberg, 2005). By modifying the experimental situation and attempting to remove all deficiency of decision making in laboratory situation, some behavioural tasks have been conducted – such as the evaluation of people walking through a red light at pedestrian crossing, for example (Gardner & Steinberg, 2005). Considering the age, most of the subjects were between 14 and 60 years old. Actually, there are no data for younger ages. Generally speaking, replications of risky shift research show that while in a group, especially within peers interaction, adolescents and adults make riskier decisions than individually (Stoner, 1961; Feldstein & Washburn, 1980; Cauffman & Steinberg, 2000; Gardner & Steinberg, 2005).

It is interesting that the issue of risky decision making process is always partially observed, as Boyer (2006) confirmed through a review of different perspectives and research on this subject. In risky shift phenomenon research the focus is always on the ultimate product, on the decision that is made individually or in a group. We cannot say that exploring the process itself has been neglected, but there is no clear methodology to analyze this process or to explain empirical data. In this chapter, we intend to give a preview of possible explanations offered by some of the

authors in order to be able to qualitatively analyze empirical data on this topic. We move from the assumptions that:

a) there is a strong role of a leader in a group. Some people are more confident and they advocate riskier explanation with the hardest arguments. Nevertheless, research shows that there is a risky shift within a group and in front of the others, even if there is no leader in the group (Isenberg, 1986);

b) a relevant explanation is the responsibility diffusion. No participant of the interaction feels any responsibility for decision made and that is why the willingness for riskier decision is greater (Gardner & Steinberg, 2005);

c) there is a social desirability of risky answers. Risk and bravery are of great value, and people that individually made less risky decisions are ready to move forward to a riskier decision in a group. Research shows that it is sufficient for some of the participants to find out that a risky degree of the others (in a previous individual task) is greater than theirs to make riskier decision in a group (Vinokur, 1971).

Why study a risky shift phenomenon at the age of 10?

A lot of studies confirm that risky shift phenomenon is common for people between 14 and 65 years old (Gardner & Steinberg, 2005). Decisions made in a group are always riskier than decisions made individually, but the average number of decision made by older participants are safer than those of the younger ones. Nevertheless, a previous quantitative analysis conducted in our research has shown the opposite result: ten years old children make safer decisions in groups than individually.

The main goal of this chapter is to explore how conversation leads toward less risky decisions. More precisely, the focus is to understand why the child who individually made the most risky decision does not manage to persuade other children to accept the

same decision. We present different situations that led "risky children" to accept a less risky answer and we also analyze a case in which the child with the riskiest answer manages to persuade the partners to accept his answer.

Method

Sample and procedure

Research subjects are ten years old primary school students of fourth grade. We have chosen this age because it represents the earliest age at which children could understand conditional sentences used in the task (Markovits & Barrouillet, 2002; Gauffroy & Barouillet, 2009). A number of 118 students were questioned during the first phase. Thirty of them satisfied the criteria and ten triads were made out of them. Each triad consisted of children from the same grade, same age and sex. Five triads were formed of male and other five of female students.

The research design includes two different steps: an individual pre-test and a triadic interaction. Before the main research (individual and group decision making), a construction of task adequate for this type of questioning was necessary.

Description of the task and its construction

A group of ten children, aged 11 to 13, was asked to outline situations from their personal experience when decision making was difficult for them. They had to define those situations precisely and to evaluate the profit or loss that came out as a consequence of the decision they made. We have also checked whether children at that age understand or not concepts like "risk", "dilemma" and "chance". According to their answers, we have chosen the situation where the most common issue was

taking a choice between two solutions. We constructed the task similar to those used for adult researches (Feldstein & Washburn, 1980; Gardner & Steinberg, 2005).

Afterwards, another group of ten children solved the task individually. They were later asked whether they had any trouble in understanding and solving the task, and whether they would change the task in a way to make it easier for other children to understand. Different iterations of this procedure led us to the final version of the task, as presented below.

The task: Petar and his dilemma

Petar is ten years old and he likes to swim and to watch water sports more than anything else in his life. Tomorrow there will be a very important math exam at school and he has not begun to study for it yet. The mark on this exam will determine if he will have a positive mark at the end of the year. Petar always had a problem with solving math problems and he needs to study even more than his peers to acquire a positive mark. Today, a new Olympic swimming pool is opening. The entrance is free and the best of the swimmers and water polo players will be present. Petar was called by his friends to go together to the grand opening in order to get autographs and pictures from their sport idols. Petar has a dilemma and he does not know what to do. What would you advise Petar? Circle one of the answers below:

1. *to go to the swimming pool and to stay there the whole time. This way he will definitely get a negative mark;*
2. *to spend more time at the swimming pool than studying. If he does so, there is a bigger chance that he will get a negative mark than a positive one;*
3. *to spend equal time at the swimming pool and studying. In this way, his chances for a negative or positive mark will be equal;*

4. *to spend more time studying math than at the swimming pool. The chance for a positive mark will be much greater that way;*
5. *to stay home and to study. This way he will have the greatest chance to get a positive mark;*
6. *something else to do?*

The main study

During the first phase, each child was asked to read the above-mentioned task and to decide what the boy (Petar) should do. After this phase, students were put in groups of three children. Each triad consisted of children of the same sex, age and grade. Due to the fact that the most common reason for changing the degree of risky decision making is a situation when the contestants have different starting views (Isenberg, 1986), all triads were equalized by their answers during the individual questioning. In particular, each group had a child that chose the answer no. 5 (the "safest" decision), a child who chose the answer no. 4 and a child who chose the answer no. 3 (the "risk" decision within the group). After the triads were formed, children were asked to solve the same task again, in order to reach the final common decision as a group. The time between the first and the second phase was varied between one and three days. The time for decision making was not limited. All the tasks were conducted in primary school, in a room intended exclusively for this purpose. Each interaction was video and audio-recorded. The data were then transcribed in order to be qualitative analyzed.

Results

We have distinguished between three representative examples of the most common situations we found. Three specific types of

patterns were outlined, illustrating the reasons for "riskier" child's acceptation of a safer decision within the group's decision:

1. the *involvement of authority* made by one of the participants during the process of group negotiation;
2. the *conversational passiveness* of the person that gave the riskiest answer during the pre-test. By "passiveness" we presume low engagement in the conversational activity which manifests as silence, dodging the answer, taking a role of an observer. The risky child is then the participant who takes the least space in interaction;
3. the presence of *two distinct opponents,* the situation where the risky child is in minority with respect to his opinion. Based on a risky child behaviour, we can differentiate two sub-categories for this case:
   a) acceptance of a safe decision, where a risky child constantly opposes his peers and fights for his suggestion. This is a situation where a risky child is active and "fights" for his voice. We named this specific strategy the risky child used as bargaining;
   b) acceptance of a safe decision where there is no repulsion at all and a risky child is easily overcome. In this situation we have an acceptance of a safer decision, after the alliance of others.

In an analytical section, we provide different excerpts in order to illustrate each case. At the end, an example of a situation in which the risky child manages to convince other children to change their answer is also presented. This divergent example helps us to understand why risky children sometimes change their answers and sometimes they do not, and also which interaction leads to a riskier answer.

1. The child changes a decision based on the authority reference

One of the reasons why children who had formerly made riskier decisions changed their decisions to the safer ones is the fact that their peers were relying on the authorities and they expressed the opinion of the adults as an argument for their case. One of such situations is described in the first example.

Excerpt 1

Participants: Milan (answer n. 3 during the pre-test); Janko (answer n. 4); Marko (answer n. 5)

```
1. Milan:    come on (.) for whom we should vote the most
             ((laughing))
2. Janko:    let's do it like this (.) who votes for one
3. (3.0)
4. Marko:    no  one  (1.0)  ((quietly))  it's  five  ((very
             quietly))
5. Janko:    easy we are not in a hurry
6. Milan:    for two
7. Janko:    fo::r two::::: let's see (.) >to spend more
             time at a pool than< ((reading)) (.) ok we
             don't want that one hundred percent 100%
             ((quietly)) (.) FOR      [THREE:::]
8. Milan:                             [three:::]
9. Milan:    me ((raises two fingers))
10. Janko:   (.) >to spend the same time on a game and
             studying (.) to spend the same time (.) to
             spend the same time on a game and studying (.)
             that way he'll have an equal chance to get a
             positive or a negative mark<
11. Milan:   well that's more logical (.) to spend and::
             [to::::]
12. Janko:   [but imagine] you (1.0) Milan (.) I mean
             imagine that someone spends more the same time
             like that and gets a low      [mark] and now he
             is on the
```

```
13. Marko:                                    [my]
14. Janko:   [street begging]=
15. Marko:   [my mom] ((covers the mouth with his hand))
16. Janko:   well then it's more worthwhile to you to find
             a good job and::=
17. Marko:   ((takes Janko's hand with one hand and covers
             his own mouth with the other and speaks very
             quietly)) =my mom, what my mom [says ]
18. Milan:   [don't]
19. Marko:   that it's bad to pick three (1.0) >I told
             her<=
20. Janko:   =>to spend more time studying math than at the
             pool< .h   he'll see the same he'll get the
             autographs  [and::: he'll stu::dy more]
21. Milan:                      [Janko is right] me::: to (.)
             I would also vote for four=
22. Janko:   =and he'll get a positive mark. five, >to stay
             at home studying and definitely get one< (.)
             but imagine that your mom is having an exam .h
             and you should get a positive mark (.) so we
             cannot take five again (.) because you would
             surely like to watch your mom and to get an a
             (.) right, is that right? ((looks at Marko))
23. Marko:   yes ((quietly)) mhm
24. Janko:   so (.) we'll take::    [four]    ((looks    at
             Milan))
25. Marko:                          [((points at four))]
26. Marko:   four
27. Milan:   four ((looks at Marko first and then gives an
             answer))
```

At the beginning of the dialogue Milan suggests, based on his previous choice during the pre-test, that they should decide by voting (turn 1). Milan takes the initiative and offers a way to solve the problem. It is noteworthy that he is the one who introduces a pattern of democratic voting as a cultural tool for making joint decision. In turn 1 Milan said "*for whom we should vote the most*", but he probably meant for *which* suggestion they are going to vote. In a similar way, other participants had the same interpretations and in the further conversation they voted for the numbers of suggestions instead of people who proposed them

(turns 2, 6 and 7). Then, Milan expresses his opinion, offering the "logical" nature of his answer as an argument. In turn 11 he does not hesitate to express his opinion even though he knew other solutions previously offered by other participants. Janko opposes Milan's suggestion, predicting possible negative consequences in case of accepting it (turn 12) and trying to invite Milan to make abstraction from his first choice ("*imagine....imagine that...*"). However, this opposition does not make Milan to change his attitude. The intervention of Marko in turn 19 ("*my mom told me it's bad to take three*") involves someone else in the discussion. The mother's opinion bears a great power, being an opinion of an adult. At the same time, the evaluation of Marko's suggestion by an authority was implied as something bad (not as something wrong), which probably closes any further negotiation. Milan accepts Janko's suggestion, the less risky decision, in turn 21 and looks at Marko in turn 27 possibly in order to reach an agreement. In that way he avoids the possible responsibility for making a "bad decision" as Marko's mom implied.

2. Conversational passiveness of the risky child

In some of the triads risky children were not engaged enough in a process of decision making and this was the reason for their safe decision acceptance. The next excerpt could be an illustrative example of this situation. In particular, Ana is a child who was not expressing her attitudes clearly. She did not argue, and she never showed an extra initiative to direct a decision making process in line with her pre-test attitude.

Excerpt 2

Participants: Ana (answer n. 3 on the pre-test); Bojana (answer n. 4); Ivana (answer n. 5)

```
1.  Bojana: four
2.  Ivana:  I would take this ((points at the answer n.5))
3.  Bojana: so the fifth (.) you? ((addressed to Ana))
4.  Ana:    (3.0) we::ll I don't know (.) to me neither
            thi:s you:rs nor [this is:::] ((very quietly))
5.  Ivana:                   [so it's four]=
6.  Bojana: =yes
7.  (3.0)   ((Bojana and Ivana look at Ana while she looks
            at the paper))
8.  Bojana: but here (.) it only says not to (.) I think,
            it's nice to be there and also for his friends
            to help him. how shall we do this? ((to
            Ivana))
9.  Ivana:  we can write here ((points at n. 6 where the
            blanks are for writing their answer))
10. Bojana: so to write?
((during the next 35 seconds, they arrange who will write
and then Bojana starts writing the sentence on her own))
11. Bojana: let Petar (1.0) be on ((erases)) the game for
            a while and after that his friends help him
            with studying ((speaks quietly while writing
            this))
12. Ivana:  and then five
13. Bojana: it canno::t it can be only one ((waves away
            with her head and then looks at the
            experimenter))
14. Ana:    it can't be
15. Bojana: so it means that Petar could be in the match
            for a while (.) and then his friends could
            help him with (.) studying
16. Ivana:  OK
17. Bojana: ((writes again, then takes the rubber again
            and erases))
18. Ana:    ((leans her head on an arm and sighs quietly))
            ou::ch
19. Ivana:  you write so finely that I couldn't read even
            with a magnifier ((to Bojana))
20. Bojana: ((giggling, moving her head aside and raising
            an eyebrow)) we have done
```

Another reason for not accepting a risky decision and a reason why groups often made a safer decision is a lack of decision

making engagement of risky decision carrier. In the excerpt 2 Ana is quiet, invisible and a little bit unsure during the whole conversation. One cannot say what her suggestion is or how she made her personal decision. Ana's attitude in decision making is represented in the way she answers only when she is asked directly, as in turn 3. However she avoids any explanation when she is expected to give one, as in turn 7. In this way she excludes herself from solving the problem. One cannot say that Ana had no chance to equally participate in this process. Her peers left her the opportunity to say what she thought twice at the beginning of the conversation. In turn 4 Ana tried to create a space for different opinion saying *"well, I don't now, for me neither yours nor this is"*. She produces the sentence "*well, I don't now"* not as a sign of a lack of attitude or opinion on this task, but as a sign that she feels that there is a social pressure for different opinion. This is the only time when she tried to make a space for her disagreement, however unsuccessfully. When she is interrupted by Ivana, she shows no initiative to correct Ivana's misinterpretation of her statement. Actually, because of overlapping, Ivana only heard the first part of the statement where Ana disagreed with Bojana, which she saw as an acceptance of her own suggestion. Ivana interrupted the risky girl and did not wait to hear whether Ana agrees with her suggestion or not. Immediately after overlapping Ana's statement, Ivana and Bojana found the way to agree and to exclude Ana from the conversation (turns 5, 6 and 7). However, even after this development, Ana never tried to reengage herself into the conversation, or to clearly show that she wanted to participate in decision making. After such Ana's attitude, Ivana and Bojana mutually discuss, ignoring Ana and not trying to engage her at any other kind of communication. In turn 15, Ana repeats what Bojana said, as a sign that she would like to be involved, in alliance with the partners. However, after that, there is a lack of motivation to participate in solving a problem, as in turn 19 when Ana, by her gestures, sighs and putting her hands on the head, clearly states that she is bored.

This gesture was ignored by other girls, as they continued their communication, and decided when this problem solving was over.

3a. The presence of two distinct opponents: The constant resistance of the risky child

When in a group, person accepts a safe decision in a situation in which there are two distinct opponents and when the risky child is alone with his/her suggestion. We identified a subgroup of the risky children who are motivated to keep their own attitude and to elaborate it. In the next excerpt we observe an interesting case of a boy, Igor, who eventually accepted the decision he had not agreed with even though he was overwhelmed by other participants.

Excerpt 3

Participants: experimenter (Exp); Igor (answer n. 3 during the pre-test); Goran (answer n. 4); Nikola (answer n. 5)

```
1. Igor:   I  think  three  (.)  if  the  pool  is  the  most
           important in the world for him
2. Nikola: ye::s  but  >what's  his  name<  for  him  it  all
           depends on the grade
3. Goran:  that's right ((nods affirmatively))
4. Nikola: >it means< he has to get five first and then
           he'll go ((looks at Goran))
5. (2.0)) ((Nikola and Goran look at Igor))
6. Igor:   and (.) what if (.) we circle three (1.0) he
           gets   [three a::nd]
7. Nikola:        [yes but then] he mustn't go to the pool
           anymore
8. Igor:   well all right so (.) >but read again< look (.)
           here today there is an opening of a new built
           Olympic pool the entrance is free the best
```

swimmers and water polo players will be present
                ((reads)) (1.0) so it's free only for today.
9.(3.0)   *((Igor looks at Nikola, Nikola looks through the*
                side window, shakes his head, and Goran gets up
                from the chair and looks at the dictaphone))
10. Nikola:>no, no::< the entrance is free only for the
                best (.) the good ones=
11. Goran: [=the rest will co::me]
12. Igor: [opening only] today (.) only today= *((reads*
                again to them and shows them the text))
13. Goran: =and there will be them:: (.) who play (.)
                there will be the::m who play as for the
                representation like
14. Igor: *((reads again an introduction of the task aloud*
                while others listen)) and they will get an
                autograph *((underlines a part of the sentence))*
15. Nikola:yes but they will [only watch]
16. Igor: [only today] only today
17. Nikola:>yes, yes< *((nods affirmatively and looks*
                through the window))
18. Igor: you know how (.) when you go to watch football
                and then you pay an entrance fee=
19. Nikola:=yes= *((nods and looks shortly at Igor))*
20. Igor: =well it's free here (.) the best are coming
                and they can show off.

((Nikola keeps looking through the window, and then he
draws boy's attention to the teacher coming into school.
Shortly, all of the boys were looking through the window,
and they talked about the teacher. Three minutes later,
they were back with the task and read it))

[…]

91. Goran: *((takes the pencil out of Igor's hand and*
                shows the answer n. 5))
92. Igor: *((takes the pencil out of his hand))*
93. Exp: is it hard for you?
94. Goran: no (.) but we cannot agree
95. Igor: >it is not, it is not<
96. Goran: C'mon, you try it *((to Nikola))*
97. Nikola: five.= *((crosses his hands))*

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```
98. Goran:   =five ((looks at Igor))
99. Igor:    what about four? ((reads the answer n. 4 for
             himself))
100. Goran: we::ll IT'S FIVE  [come on]
101. Nikola:                  [>five five<] >come on, come
             on<=
102. Goran: =it's five (.) >come on finished come on<
             ((raises both hands in the air))
103. Igor:  ((holds a pencil in his hand, wants to circle
             the n. 5 then he starts laughing and puts the
             pen back)) a::nd four
104. (2.0)  ((Nikola and Goran laugh))
105. Nikola:come on read one more time (.)      [then
             decide]
106. Goran:                                     [don't  do
             that but let's] the fifth ((circles the answer
             n. 5 with his finger))
107. Igor:  ((wants to circle with the pencil, then gets
             back again, like he is playing))
108. Goran: come on the fifth
109. Igor: ((comes again with the pencil and turns back))
110. Nikola ((goes for his pencil)) [come on]
111. Goran:                         [COME ON] ((smiles))
112. Igor:  ((circles five))
```

In this excerpt, risky boy Igor takes initiative at the beginning of the discussion (turn 1). He starts the conversation by elaborating his attitude ("*if the pool is the most important in the world for him*"). Nikola gives an opposite argument to this one in turn 2 using the marker "*yes...but*". In this way, Nikola is finding the way to oppose Igor, stressing the situation in which the boy in the story is ("*it all depends on the grade*"). In turn 3 there is the first sign of an alliance between Nikola and Goran when they nod affirmatively. Then again, the same sign of alliance against Igor is shown in turn 5. In the next statement (turn 6), Igor asks for an agreement despite the fact that Nikola and Goran offered different answers. While talking, a micro pause reveals a hesitation, an effort to agree with the offered answer, but insisting on an alternative. Using the same contrast marker as before, Nikola

argues that *"Petar will not be able to go to the pool anymore"*. After this turn, Igor skips a chance to argue against Nikola's previous argument by showing that there is nothing like that in the text. Instead of that, Igor says *"well all right so"* and then insists to reinforce the testing "validity" of the idea by reading the story again. Igor tries to use the story text as an argument of authority, and this situation is repeated again in turns 12, 14 and 20. This is his way to defend his argument in favor of the answer n. 3 *("only today, only today")*, and he constantly repeats that, even in turn 16. Igor repeats information from the text several times, loudly and clearly, he marks them with a pen and outlines their relevance for the decision making. In turns 7, 10 and 12 Nikola intentionally or unintentionally presents information that supports his suggestion, as it was given in the text and that was not correct, but Igor does not oppose this. It is possible that one of the reasons why Nikola twice introduced additional elements that were not included in the story was to raise the cost of his decision. Despite Nikola's resistance, Igor does not give up, but continues to refer to the new information he found in the text (turns 14 and 16).

After almost 35 minutes of discussion, Goran and Nikola realize that Igor is not going to give up and that they have to be more aggressive. In turn 91 Goran tries to circle the answer by himself, although Igor is against it. In the next turn Igor reacts by taking the pen from Goran and keeping it. It seems that the pencil is a sign of power here: Igor wants to get a pencil in order to secure the opportunity for his weak position. In turn 95 Goran and Nikola's alliance gets even stronger. Goran realizes no way situation and asks Nikola for help *("come on, you try")*. In this way he asks for greater support in convincing "stubborn" Igor. They realized that they are two against one and for this reason there is no argumentation anymore (*"not"* becomes a power game). Finally, Goran wants to solve this situation as soon as possible and he does not allow Igor to read the task again or to discuss it. Igor gives up when two other boys are yelling, and

constantly repeats answer n. 5. They are rising the pressure for acceptance of their suggestion while yelling *"come on, come on"*. Nikola and Goran manage to promote their opinion as a group one, but Igor keeps the pencil. At the end, Igor circles the answer although he is against this choice.

This example shows an interesting behaviour we called *"bargaining"*. It is a situation in which people with a risky position accept the safer decision by discussing with other participants. These are people who chose the answer n. 3 during the individual testing and the safest answer n. 5 during the discussion with their peer participants. There are three cases in which some participants used a "bargaining" technique. In situations when they realized that differences between their answer (n. 3) and the answer of their opponents (n. 5) were too deep, they tried to convince the opponents to reach a compromise (n. 4). In the previous example, Igor realized that he was outnumbered and he tried to change his strategy by suggesting a less risky solution than before (turns 97 and 98). In turns 99 and 103, Igor asked for new possibility. He tried to find a compromise between his stance and a great step of accepting the safest answer. It is a sign that he was in disagreement with partners, even if his position was not stable with respect to the first answer he offered. At the same time, he tried to overlap Goran again. However, Goran and Nikola mutually agreed and the "bargaining" failed. The situation looks more like catching at a straw than a simple acceptance of suggestion that was unacceptable a moment before.

3b. The presence of two distinct opponents: A change without any opposition

Another case shows a situation in which the risky child is not able to manage the majority pressure without the resistance. In the next example, a risky boy changes his attitude once he realized that he was alone. Unlike Igor from the previous example, this boy

never tries to fight for his attitude, to argue his opinion or to convince other boys.

Excerpt 4

Participants: Zoran (answer n. 3 during the pre-test); Vuk (answer n. 4); Rade (answer n. 5)

```
1. Rade:     to stay at home to study and to definitely
             avoid the negative mark in this way ((reads))
             (.) that's the best ((looks at Vuk))
2. Vuk:      I would advise advise him    [to::] ((reads))
3. Rade:                                  [>that  only]  if
             we want to add something<=
4. Vuk:      [=yes]
5. Zoran:    [a:nd, and] this the best, this is the best
             ((points at the answer n. 3))
6. Rade:     [it is no::t]
7. Vuk:      [and and] to tr[y this] ((points  with  the
             pencil at the answer n. 4))
8. Rade:                   [NO (.) to] >get  five  (.)
             he'll get it one hundred percent<
9. Zoran:    mhm=
10. Vuk:     =then if he stays at home and gets five=
11. Rade:    =yes=
12. Vuk:     =and then   [when (.) THEN: HIS MOM WI::LL]
13. Rade:                [>and THEN WHEN HE GETS IT HE CAN
             GO<]
14. Vuk:     THEN  HIS  MOM  WILL  (.)=  ((looks  at  Rade
             briefly))
15. Rade:    =NEXT TIME HE'LL GO= ((nods affirmatively and
             looks at Zoran))
16. oran:    ((moves his mouth, alternatively looks at Vuk
             and Rade))
17. Vuk:     =then his mom will give him a REWARD AND PAY
             HIM WHO KNOWS HOW MANY TIMES (1.0) do you get
             that? ((to Zoran))
18. Zoran:   yes= ((quietly))
19. Rade:    =so that's what we are going to do
```

```
20. Vuk:    YES
21. Rade:   c'mon five
22. Vuk:    five
23. Zoran:  ((looks at the paper where Rade circles the
            answer and smiles))
24. Vuk:    the::re we have solved it ((looks at the
            experimenter))
```

Zoran, being the carrier of the riskiest decision, yields under the heavy pressure of other participants. After each tryout to state his opinion (turns 5, 9 and 16), he is constantly interrupted (turns 6, 10 and 17), which does not leave him enough space to think or to make a suggestion. Zoran never opposed loudly to suggestions of other participants, he did not argue why his suggestion is better than the others', and he did not try to convince the boys in his decision. In turn 9 he tried to argue, but he was interrupted by Vuk. After that, boys built an explanation why the safe solution was the best. However, Zoran shows no argument in favour of his suggestion to convince the boys and to show them that his suggestion is better. After Zoran's facial expression in turn 16, Rade realizes that Zoran does not accept his suggestion and starts quite aggressive and rough convincement (turn 17). He concludes his claim by *"do you get that?"*, and leaves the impression that his explanation is the most logical and that Zoran is the only one who cannot see that. In turn 18 Zoran accepts the decision quietly and unhappily, and lowers his head. He accepts the pressure and he realizes that he has no choice. Rade once again tries to get an acceptance for his suggestion in turns 19 and 21, leaving the opportunity for Zoran to come again. However, both times Vuk agrees but Zoran does not, even though he has the chance to say something. After the final definition of the answer, Rade circles the answer n. 5. Zoran has a smile on his face as if he is covering his dissatisfaction because he accepted that answer.

One of the main reasons why people accept decisions different from their previous choices is the fact that they have two other participants who agree. His/her position is unbalanced and

he/she cannot fight against two opponents, so he/she often resigns from discussion and accepts the majority decision.

The win of the risk

At the beginning, we referred to situations in which the risky child managed to fight for his/her suggestion and to force voting for the riskiest solution during the group decision making. We will now see an example which can illustrate how to understand why risky children sometimes change their answers, but sometimes do not.

Excerpt 5

Participants: experimenter (Exp); Tea (answer n. 3 during the pre-test); Danijela (answer n. 4); Lara (answer n. 5)

```
1. Tea:        here I will read all the answers ((brings
               the paper closer to herself))
2. Lara:       to have [an    equal    chance]    ((starts
               reading))
3. Tea:                [WAIT  WAIT  LARA]  I  AM  READING
               ((tries to push away Lara with one hand and
               continues to read the whole task))
4. ((for the next 55 seconds Tea reads the task))
5. Danijela:   and what do you think if we write that he
               should be at the pool for three hours and
               study for the rest of the time?= ((looks at
               Lara))
6. Tea:        =but does he have THE WHOLE DAY or what?
               ((looks at Danijela))
7. Danijela:   what?=
8. Tea:        =FOURTH grade (.) >you know what< he is at
               fourth grade (.) do you get it?
9. Danijela:   yes
```

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10. Tea:       that means that (.) he must go to school in
               the afternoon=
11. Danijela: =well at half past one or half past twelve
12. Tea:       yes (.) and he is back at five=
13. Danijela: =and he gets up at eight o' clock for
               example, studies until the school begins and
               goes to the pool afterwards
14. Tea:       and when is the pool opened in the
               afternoon?
15. Lara:      ouch (.) yes (.) mhm ((smiles))
16. Danijela: let's do it again= ((takes the paper))
17. Tea:      =NO (1.0) to study for two hours is the best
               (.) and he goes to the pool for two hours
               (.) both (1.0) something like that (.) when
               we count it, it's like that
18. Danijela: well, I don't know

[…]            ((for the next 1min and 43s, the girl reads
               the task again))

31. Tea:       this is the best ((points at three))
32. Danijela: come on (.) >let me think one more time<
33. Lara:      ouch:: we'll stay here fo::r     [two::
               hours] (1.0) we (.) the little brains
               ((quietly))
34. Danijela:                                  [don't]
               ((touches Lara's hand))
35. (4.0) ((girls look at each other alternatively))
36. Danijela: read one more time. ((looks at Lara))
37. Lara:      oh ((sighes and takes the paper)) Petar and
               his dilemma:: ((reads the whole task to the
               end, when she is finished, Tea takes a pen
               and circles the answer n. 3))
38. Tea:       there (1.0) let this be the final answer
               ((pushes away the chair in order to stand
               up))
39. Danijela: hmh wait ((takes the pen and the paper and
               brings it closer to herself))
40. Tea:       we have finished ((gets up, moves the chair
               and looks for the experimenter))
41. Lara:      ((moves away the chair and gets up))
42. Danijela: hmh hmh= ((smiles))
```

```
43. Tea:      =wait a minute ((addresses to Danijela,
              moves across the table and puts her hand on
              Danijela's hand)) (.) and how many of us
              were here (.) how many girls?
44. Exp:      what? have you done?
45. Lara:     yes
46. Exp:      all right girls (.) what have you agreed?
47. Tea:      [the third ((shows the answer n. 3))
48. Lara:     [the third one
49. Danijela: (1.0) yes ((quietly))
50. Exp:      fine
```

In order to clearly analyze this situation we intend to compare it with the previous examples of interaction. Tea is a girl who differs a lot from the previously described risky children. She is loud, persistent, interrupts her participants and does not allow anyone to disturb her discussion, as in turn 3. Additionally, Tea does not allow an alliance between Danijela and Lara (turn 6) and that is also a sign of dominant attitude within this interaction. By repeating the question, she casts doubt on Danijela's suggestion and tries to outline the illogical base of her plan. Her arguments that support her suggestions are not consistent with information from the text and she puts the boy form the story in a context similar to her participants (turns 8, 10 and 12). In that way, she builds an argument, the fact which is hard to break, taking her participants in dilemma, even if they do not accept her suggestion. Other participants do not elaborate their disagreement, they rather simply express their dissatisfaction (like Danijela in turn 18).

After discussing for some time, reading the task repeatedly, Tea repeats her suggestion while Danijela asks for the time to rethink the task. Danijela does not agree with Tea during the whole discussion (turns 5, 18) and she asks for the time to think about the decision (turn 32). On the other side, Lara loses her patience and she thinks that the whole process lasts too long (turn 33) and it needs to be over. Still, she respects Danijela's wish and gives her more time to think by reading the task again. It looks as

if Tea felt helpless to verbally convince the girls in her suggestion and decided for a bit aggressive approach. In turn 38 she takes the pen, circles the answer she wanted, rising from the chair, and verbally makes clear that she will not give up on her opinion. Danijela is unpleased with the gesture and she wants to prevent it somehow. However, she does this very unsurely, smiling sourly and trying to say something in turn 39. Tea does not want to hear Danijela's denial of her suggestion and she tries to prevent her attempt by covering her hand and involving the experimenter in the discussion. She asks the experimenter a question irrelevant for the decision making process, however interesting for the participants (turn 43). Tea interrupts further task discussion, focusing on the other subject and informs the experimenter that they have finished. The experimenter becomes a part of the interaction, because other girls are not motivated to oppose Tea's decision and they quietly accept it. Finally, the combination of Tea's aggression, dominance, cleverness and cease of any communication which does not include her, led her to convince the others to adopt her proposition.

Concluding discussion

One of the most permanent question in social psychology is the role of the group in the decision making process, no matter which type of decision is at display. Many authors were inspired in risky shift phenomenon research, as it has been described in the first part of the chapter. Much of this literature focused on the comparison of "average" individual opinions before and after group discussion and, thus, does not necessarily involve collective judgment. In that way, many relevant data which could help understanding this phenomenon were lost. There is also little data on how children behave in such situations.

Based on the conversational analysis, this chapter was focused on the description of group dynamics of ten years old children

during the decision making process. We tried to understand why the children with the riskiest decision in individual testing did not manage to force its proposition in a group discussion. Our analysis suggests that one of the important reasons why children made a safer decision is the involvement of an important adult person's voice. In the situation in which there is an authority reference (as in the excerpt 1), the decisions and problems which children are trying to solve are common outside the experimental situation, as well. After the first day of testing, children go home and discuss with their parents the time they spent at school, and also about not so common situation – an arrival of an experimenter and absence from class in order to read the story and solve the problem. In their interaction with parents (in our examples it is always the mother), children hear their opinion and the way in which they would like to make a decision. This is the common way of learning and internalizing of certain behaviour by children. Parents' opinion has a vital role in children's learning and development. Parents' attitudes are not equal as suggestions of children and that is why referencing their suggestions is acceptable almost automatically. In our research there are situations where parents suggested which decision is "more right", and this influenced a decision making shift that was typical for risky children. Such situations warned us that a decision made in a group could be the result of someone else's opinion, or attitude of a person who was not directly involved. Once more, this implies re-questioning the results of researches where only the final decisions before and after the discussions were observed.

One of the advices one could offer, in order to avoid the situation where your decision could be rejected in the group interaction, is to try to be as active and dominant as possible. If the risky child is not sufficiently involved in interaction, if he/she occupies less space and if he/she does not try to argue enough for his/her propositions, that almost definitely leads to a situation where his/her propositions are not taken into consideration at all, and it cannot be a result of a group decision. The excerpt 5

confirms such conclusion. This example shows that if the child is more aggressive, taking more dominant role in conversation, decides who talks when and strongly argues his attitude, he will have greater chances to "win" and to fight for his decision to be the final decision, which is also the riskiest one.

We have also seen that there are situations in which the risky child is alone and, when he/she is pressed by other participant, he/she makes a decision different than the one at the beginning. Such discussions could be long, unpleasant and very competitive. It happens in an atmosphere where one could recognize the opponents, or could hear raised voices, even see the nudging and fighting over who will encircle the answer or read the task. Participants try to get certain "power symbols" which allows them to be the ones who will make the final decision. This result is common in interaction analyses among the jurors in US trials. When they once realize that they are in minority, most of the jurors reject their decisions and vote for the majority proposition, no matter how hard they fought previously. Final decision (which in the most of the US states must be unanimous) is based on "majority rules" (Kalven & Zeisel, 1966).

It has also been noticed that regardless of the behaviour of the risky child (whether he/she argues, uses different strategies in negotiations, or he/she is passive in conversation) – when he/she is in a situation with two opponents who made the alliance already, he/she loses. No arguments of responsibility diffusion theory which was advocated by Gardner and Steinberg (2005) were found in interaction analyses. Children were not showing or saying anything which could imply shifting the responsibility of decision made. According to this hypothesis we expected statements such as "*I will not be responsible for decision that is made*", but it never happened in our case. The responsibility's diffusion is the most common explanation of risky shift phenomenon (Zuber at al., 1992) and that is why the fact of non-existence of such data is so surprising.

Hypotheses of risky shift occurrence as a result of the fact that risk taking is more socially desirable then conservatism, were also not corroborated by the results of this research, because the risky answer in our task was that the boy from the story is risking a possibility to be negatively graded, instead of having fun. The question that occurs is: What is the socially acceptable answer in the task given to participants? We can find the answer in a setting of experimental situation. We must not forget the fact that the research was conducted in school, by the unknown person which their teacher brought. All this could be one of the reasons why children were changing their risky decisions to the safer ones. In that way they showed that in such designed experiment there is a different framework of socially acceptable (safer) answer. Socially acceptable answer in this task was that boy should stay at home and study for a possible test, and not to spend that time in having fun. Ten years old children chased safer (and it appears socially more acceptable) suggestions when they were in a group.

At the end we would like to outline that explanations offered in this chapter are specific and they should not be generalized to some other cases. This research has been focused on giving answers to specific questions related to triad dynamics of children who make risky decisions. On the other side, this study unfolded various questions which remain unclear for the time being. It would be very interesting to see the way the interaction changes and how decisions are made in a situation that involves larger groups. This study consisted of peer children who know each other for at least four years. It is possible that these risky children would behave differently in interaction with unknown peer children and use different strategies in decision making process. A study of such design always raises a question of ecological validity of data, concerning the reliability whether children would behave the same way in a real life situation or not. The fact that the most of evidence confirms that riskier decisions were made in a group (on the contrary to our study) makes us to believe that the real life experiment would be a good idea. For example, children would

have to decide by themselves whether they are going to see their celebrity idol, or they would stay at home to study. They would also have to make that decision in a group. This way, we would be able to compare a different set of data and to analyze the differences in two separate experiments.

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Chapter 5

"What do you mean by that?" How personal meanings are developed and constructed in literature classes at upper secondary level[1]

Jelena Radišić

In the field of educational research, inquiry on teachers' classroom practices is divided into different traditions. Some authors emphasize on teachers' philosophy, knowledge, beliefs, conceptions and attitudes, believing that the mind of the teacher is 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, without considering what these practices signify for teachers themselves, what they intend to achieve and why they choose specific ways in doing so (Adelsteinsdottir, 2004). In this chapter these two traditions are put into a dialogue. However, we consider the relationship between teachers' beliefs on how they should construct the learning space and their everyday classroom practices not as a simple or unidirectional one, but as something that can rather vary. In some cases these two factors may be consistent with each other; sometimes practices can go beyond boundaries set up by beliefs, while sometimes they can even contradict previously "established" teachers' beliefs.

One presumes how learning occurs in every classroom setting. Yet, how a particular teacher structures conditions of that learning may vary to a large extent. In learning situation it is very

important that there is a mutual understanding between the teacher and his/her students, about what is to be learned. In this sense language used in class by both sides may be of critical importance in the process of learning (Marton et al., 2004). Besides the spoken language, examples and analogies that a teacher uses, stories he/she tells in class, questions raised and context that is brought on are equally important, as well as the meaning that is assigned to these examples, stories and analogies by the students themselves. With all those at the scene, critical aspects of what is to be learned are interpreted, understood or even constructed.

It is hard to imagine a class in which a teacher does not talk. McHoul (1978) notes how teachers speak over 80% of the time during high school lessons, while much of this speech is a monologue. According to Arminen (2005), teaching via extended multi-unit turns, "lecturing" (or recitation format) was and still is a central pedagogical activity in the classroom, and as such takes up a considerable share of the given time. Still, amount of teacher talk can vary from class to class even in case of one teacher, let alone when one observes different teachers at work. But what remains to some extent a constant is how that talk is produced and in what type of language. Is it a more formal one, using academic words, idioms, and genre of talking that might be difficult for students to understand or is it a language which is similar to the one used by students themselves?

However, regardless of the type of language used, one assumes that, when a question is raised during an interaction that is taking place, the person who raises the question does not know the answer to it in advance. Rather he/she is seeking for information. Yet, the research in classroom done so far reveals how school is typified by peculiar patterns of interaction that tend to be short exchanges directed by the teacher (Mehan, 1979); during those situations, in many cases the teacher already knows the answer. Teacher initiates questions, students reply and then the teacher evaluates their answers (the so called IRE sequence).

Hayes and Matusov (2005) argue that even when teachers explicitly plan to promote conversation in the classroom they tend to start "*testing institutionally defined curriculum material, rather than doing activities related to the participants' interests and concerns*" (p. 340). In their own belief, even when teachers agree with definitions of dialogue given in the literature, they may still use rather traditional pedagogical approaches to promote it.

At the same time, one can argue that even if the teacher is the one "who knows the answers" in advance, such positioning on its own does not have to posit a drawback. As Arminen (2005) states, when a teacher asks or otherwise initiates student's response, whose adequacy he/she then evaluates, the evaluative turn itself may take different forms depending on the student's answer. A teacher may confirm the answer through acceptance, repetition or with a positive assessment. He/she can also reformulate, revoice or even reject student's answers. But importantly, instead of an evaluation, a teacher can also initiate the new activity. The flexibility in this initiation-response-evaluation sequence (IRE) makes it an important interactional resource according to the author. 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). As such, every talk move is tied to the context and positions the speaker, the hearer and the set of ideas produced in particular ways, moment to moment. In detailed investigation of teachers who have been effective in using talk to promote learning, authors have identified set of moves teachers can use to elicit 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; allowing students' ideas to be formulated and made public instead of the authoritative knowledge of the teacher. They further argue how different talk formats (e.g. position driven

discussion, recitation or partner talk) by their design bring particular display of roles and can motivate or promote particular talk moves. In turn, this produces differentially socializing participant frameworks.

Recitation/lecturing format presumes that the teacher is in control of the content and direction of the conversation in stake. He/she is the one asking questions and evaluating answers, while students are asked to obtain the correct one (i.e. the IRE sequence). On the other hand, in a whole-group position-driven discussion, the teacher leads students while they consider one particular problem or a question, whereas the question raised has more than one answer for which arguments could be made. The teacher's role is rather to help students to clarify and explain their own position, as well as the evidence they provide. In this way students have an opportunity to listen to each other and to build upon their ideas, as well as the ideas of others. In the language and literature classes the scene for interpretations, construction and new emerging understandings could be abundant one, but at the same time scarce just as well, depending on particular talk moves and format used in class. If a poem is read only in line with the official interpretations, if character in a play is "explained" only by what is written in the critique, new meanings and constructions never acquire the chance to emerge. In this chapter we explore exactly how interpretations and personal meanings are developed and constructed during the process of analysis of specific literary works. Particularly, our analysis focuses on how different types of teachers use different conversational acts to create various opportunities for developing own interpretation.

Methodology

The present study is part of a larger research aiming to determine how everyday classroom activities and practices are affected by beliefs that teachers hold on teaching and learning

processes and which learning possibilities for the students in the light of those beliefs are. The research involves a sample of 96 upper secondary teachers from grammar and vocational schools, teaching the Serbian language and literature (48 teachers) and mathematics (48 teachers). In total, 77% female and 23% male teachers participate in the study. Such a gender representation in favor of women is typical in the Serbian education system at all levels. As for the age groups 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.

A combination of both quantitative and qualitative methods has been necessary to analyze the data. Quantitative methods are employed to discern different types of teachers considering their beliefs on teaching and learning. A specific questionnaire has been constructed in order to measure 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*). The instrument has been tested in a pilot study involving 88 teachers. Factor analysis singled out several dimensions around which teachers' beliefs on teaching and learning could be organized. These dimensions are "modern" and "traditional" teacher and "changeable" and "fixed" learning abilities. All are of satisfying reliabilities in range of $\dot{\alpha}=0.783$ to $\dot{\alpha}=0.888$. Due to its overall consistency, only the first two dimensions ("traditional" and "modern") are considered in the main study. Consequently, two more instruments have been added to this scale in the main research: the Teachers' Sense of Efficacy Scale - short form (Tschannen-Moran & Woolfolk Hoy, 2001) and the List of teaching practices. This instrument is conceived for the purposes of the main research, 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 employ in their work.

Overall procedure in this quantitative part of the study involves several steps. Factor analysis (with Keiser normalization criteria and Catel scatter diagram) has been applied to determine basic dimensions around which teachers' beliefs on teaching and learning could be organized[2]. For factors with satisfying reliabilities (Cronbach's alpha>0.7) the correlation analysis has been used to determine which factors will be used in further hierarchical cluster analysis. Afterwards, the cluster analysis has been employed to distinguish among different types of teachers in respect to their beliefs and dominant practices in classroom.

Qualitative methods (videotaping of classroom interaction and interviews) have been made with each of the selected type representative to deepen the understanding of interaction between teachers' beliefs and their classroom practices. Two classes have been videotaped for each of the selected representatives determined in the study, using two cameras. One has been focused on the whole class interaction; the other was focused on the teacher. Researchers have been present in order to videotape the interactions occurring in the classroom, based on the canonical curriculum of the school. Each session has been followed by a video stimulated interview lasting approximately one hour. All videotaped interactions have then been transcribed using conversational analysis approach.

Quantitative level of analysis

Four different groups of teachers have been set out regarding their beliefs on teaching and learning and reported classroom practices. The first group of teachers, labeled as "laissez-faire", perceive themselves as not being very successful in coping with disciplinary issues in the classroom. They inform of very rare use

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[2] 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).

of structuring practices and those stressing on to class atmosphere. The group, named "traditional stressing on atmosphere", reveals just the opposite profile. Their highest group scores have been on structuring and atmosphere stressing practices. Their beliefs on teaching and learning, as in the former group, could be perceived as eclectic between modern and traditional beliefs. With respect to other profiles, they believe 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 significantly lower than other groups in the dimension related to modern set of beliefs on teaching and again slightly higher than other groups in the traditional set. Finally, teachers labeled as "modern group" seem to be an opposite of the former type. They score the highest on participatory and atmosphere stressing practices, as well as in the set of modern beliefs on teaching and learning.

Subsequent analyses show no significant connections between different types of groups among the teachers and the type of school they worked in, grammar schools or vocational schools ($\lambda=0.125$ $\chi^2=3.864$, df=3, p>0.01). In contrast, significant connections have been displayed between set out types of teachers and teachers' subject matter ($\lambda=0.426$, $\chi^2=40.951$, df=3, p<0.01). Both mathematics and language teachers have been represented 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, that is, there is a significantly higher occurrence of language teachers in the "modern" and significantly lower number of them in the two traditionally labeled groups. Scores are reverse for the mathematics teachers.

Qualitative analysis of conversational acts
in classroom

One does not dispute on substantial existing differences between mathematics and languages as school subjects. If nothing else, their topics of concern are at the very opposite to each other. But after examining the results of quantitative part of the study, one of our questions concerns how to explain variations in different teacher types as well as the differences in their occurrence in respect to teacher holding a math or language class. What is it that distinguishes those different types in their everyday practices and to what extent are those practices endorsed by the beliefs teachers express? Further analysis is, therefore, to differentiate two levels: (a) similarities and dissimilarities between profiles regardless of the subject matter and (b) similarities and dissimilarities between profiles with specific focus on the subject matter of the teacher in question.

Our first interpretation for the accounted differences is that the classes of language and literature allow for more "space" in terms of developing personal meanings and understandings especially when one is dealing with literary works in class. Therefore, language teachers could be more prone towards "modern" beliefs on teaching and learning. Yet, some language teachers from our study could be labeled as "traditional" and "traditional stressing atmosphere". In video stimulated interviews teachers emphasize how developing personal meaning for the students is an important feature in their lessons and personally in their work with the students. How is it being done? If teachers with different registered conceptions on teaching and learning focus on the one same thing how do they do so and through what conversational means?

The only instruction for all the teachers whose classes were videotaped was to hold a class as they had initially planned to do. In three groups ("modern", "laissez-faire" and "traditional"), teachers dealt with literary works as topics of their classes, while

in the "traditional stressing atmosphere" group teacher's topic was within the domain of history of language. For the purpose of this chapter we focus on the former three groups: the so called "laissez faire" (characterized by an eclectic approach to teaching, an absence of structuring and creating atmosphere practices with an experience of low capacity in maintaining discipline), the "traditional" one (implying an absence of participating and creating atmosphere practices and a more traditional approach of teaching), and the "modern" one (in which the teacher creates the atmosphere, emphasizes students' participation through a more modern approach of teaching). Considering the topics of the selected classes (interpretations of particular literature works), we focus on how interpretations and personal meanings are developed and constructed during the process of analysis of specific literary works. In particular, we are interested 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 are presented, they are organized as follows: (a) "laissez faire" teacher – literature work of Djura Jaksic, poem Eagle (second grade students); (b) "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. Due to the length of turn of talk, all excerpts' lines have been numbered.

Academic vs. everyday talk

We come from a stand that an amount of talk produced by teacher can vary from lesson to lesson, especially when different teachers are at stake. However, what remains constant is the

genre of the produced talk. Conversation in class may take a more "academic" tone, that can be difficult for students to understand, just as the genre used may be in language which is in line with the one used by students themselves. Lesson topic in class held by the traditional type teacher concerned Goethe's Faust with the analysis and structure of characters and situations. Just before the episode shown in the excerpt 1, students and the teacher discussed about the nature of knowledge and what kind of knowledge is accessible to humans.

Excerpt 1

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

```
154   Teacher:    (1.0) how to go beyond what is
                  existential (.) what
155               we learn (.) right? hm by experience but
                  at the same
156               time   a:nd   by   applying   different
                  scientific methods
157               (.)   how   to   go   beyond   that   and
                  understa:nd hm
158               macrocosms beyond that microcosms?
159   Nemanja:    °yes°
160   Teacher:    so this human need to: understand or to
                  absolutize
161               knowledge  (.)  is  hm  (.)  one  of  the
                  variations we have
162               already  come  across  in  the  literature
                  (.) you know if
163               you  think  of  Gilgamesh  Gilgamesh  also
                  wishes to
164               absolutize  (.)  let's  say  existence  if
                  you remember
165               and  I  suppose  that  you  do  remember
                  right? that life
166               on  the  river  whi:ch  hm  allegedly  (.)
                  equalizes man
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167                  and god a:nd has anyone succeeded in it?
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Teacher's talk is produced in a highly academic, even "philosophic" manner over the course of the entire sequence (lines 154 to 158). Here he is summarizing on what has been previously said and continues with a further line of thought related to the human need to understand knowledge itself (lines 160 to 167). The wording used is quite formal and abstract. The teacher is holding a final year lesson to students who are soon to be leaving grammar school and enrolling to university. Therefore, he presumes that idioms he used are in the students' vocabulary too, as they are the future academic citizens. Expressions such as "existentialism", "microcosms as an opposite of macrocosms" are considered to be a part of students' everyday talk. A similar exchange (see excerpt 2) takes place during the course of the lesson of the "laissez-faire" type teacher. After an introduction of life and work of a poet, as well as the basic features of Serbian modern poetry, teacher asks students to determine what type of poem they are dealing with in class.

Excerpt 2

The laissez-faire teacher, lesson topic - literature work of Djura Jaksic, the poem Eagle

```
290    Teacher:   eh all right ((murmur, teacher looking
                  at the book))
291               (2.0) tell me what kind of a poem is
                  this? (.) is it
292               (.) does the poet with this poem (.)
                  please listen to
293               the question and then answer
294    Žarko:     come on
295    Teacher:   so with this, did the poet simply hm
                  look at the
296               bird, and then decided to describe it to
                  us and this
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297                is actually a descriptive lyric poem?
298   Students[3]: >No no<
299   Marija:    it's a symbolic
300   Žarko:     he compares symbolically
301   Teacher:   aha all right one can sense symbolism in
                 the poem (.)
302              right? (.) this is actually an allegoric
                 symbolic
303              poem (.) right? and it falls into, this
                 kind of a poem falls into (.) if it
                 contains an idea
```

When addressing students, the teacher is using idioms from the literature domain such as "descriptive lyric poem" or "allegoric symbolic poem". However, the rest of the wording remains in line with the language used by the students themselves. Lastly, in the case of the modern type teacher (see excerpt 3), a talk in line with the students' talk is even more evident. Again, the teacher is summarizing what has been previously said in classroom. In this case previous exchanges involved the discussion about to what extent poem Festivity could be considered an autobiographic one or a critic of society as it was at that particular time.

Excerpt 3

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

```
530   Teacher:   come on let's hear (.) what what to
                 him (.) what
531              comes out of it if it is not that (.)
                 so
532              autobiographic?
533              ((gestures quotation mark sign for
                 autobiographic))
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[3] When in a transcript we use the term "students" to label speakers of a turn it means that several students are talking at the same time.

```
534    Vuk:        hm (.) well maybe hm maybe he's just
                   so the one who
535                stands on the other side who admires
                   people who are
536                different (.) he regrets he's not like
                   that (.) and
537                maybe that i:s some
538    Teacher:    and we all focus on that (.) we focus
                   on what is
539                different (.) with that we have (.)
                   whether we wanted
540                it or not placed ourselves in those on
                   the other side
541                ((murmur)) we have said somewhere at
                   some point of
542                the class that this i:s (.) actually a
                   story in the
543                society we li:ve in (.) that is the
                   one Pandurovic
544                lived in (.) an image of the world
                   that he had
545                ((a student raises his hand)) say it
```

The exchange that takes place between the teacher and the student Vuk seems to be played at a symmetric level. The teacher's talk is very similar to the one used by students in their everyday communication (example from lines 538 to 544), while seriousness of concepts that are being discussed is not diminished by it at all. Also in the case of the traditional type, teacher's talk in a form of a monologue is more evident than in the case of two other teacher types (modern and laissez-faire). In all of the cases there is a certain rhythmic pattern in the way talk is produced. It is split into small chunks, corresponding to their understanding of students' ability to receive information or to mark key terms and meanings (line 538 "*and we all focus on that we focus on what is different with that we have*"). Yet, grammatical construction of produced utterances is more complex with the traditional (cf. excerpt 1, line 157 "*how to go beyond what is existential what we learn right? hm by experience but at the same time and by*

applying different scientific methods"), than with the modern and laissez-faire type representatives.

It is argued that one of the elementary practices done in class is the one in which a teacher asks a question and students answer or do not. After that the teacher can pose a new question or evaluate what students have previously said. But if the language used to raise a question is detached from the wording used by students themselves it is unclear whether an answer is expected at all. When is the question really a question? If talk is academic, more complex and more in a form of a monologue, how is a dialog established in classroom? If a monolog prevails when teacher communicates with students one wonders how space is created for students to be heard at an equal level as the teacher himself.

At the same time, it could be argued how certain level of academic talk format must be kept inside of a classroom. If students are to be acquainted with the world of literature (or any kind of arts and sciences for that matter), to be able to grapple with concepts, this should be done in the language of that particular domain. But if insisting on academic talk rather hinders establishing a dialogue in classroom, instead of facilitating one, what is then the right balance between everyday and academic formats? How do different formats and language used by teachers pave the way for development of personal meaning of a poem or any other literature form?

Raising a question

The previous research in classroom has shown that institution of school is typified by peculiar patterns of interaction. Exchanges are usually shaped around format in which the teacher initiates a question, students reply to it and then a teacher evaluates on their answers (the so called IRE sequence). Yet, how the exchange between a teacher and his students will be shaped afterwards depends on students' answers, but in particular on how the

teacher raises a question and handles students' answers afterwards. The excerpt 4 shows a situation of this type from a class held by a traditional type teacher.

Excerpt 4

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

```
87    Teacher:     fulfilled his goal let's say, right?
88                 ((writes down the new part of the text
                   from the Faust on the board,
89                 some students look at the board, some
                   copy from the board))
90                 this is one of hm this is one of the
                   starting points
91                 we should have in mind when we think
                   o:f faust
92                 (1.0) faust who: (.) you have said
                   ((points in the
93                 direction of the students)) was a
                   scientist (.)
94                 who dealt with (.) hm law and medicine
                   (.)
95                 even studied theology, philosophy
                   right? (.) hm (3.0)
96                 what did these hm sciences provide him
                   with or that kno:wledge
97                 he had been acquiring?
98    Marija:      (1.0) He wants to see outside
99    Teacher:     how?
100   Marija:      well he wants to: (.) see outside
                   himself how shall I
101                put it (.) like he thought (.) how to
                   come to know
102                everything on earth so he could see
                   outside of it (.)
103                that is why he had been examining
                   science after he
104                gets closer
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105   Andreja:     °to come closer to god°
106   Marija:      COME closer yes, come closer to god
107   Teacher:     °to come closer to god°
108   Marija:      as to some sort of a PERFECTION
109   Andreja:     to the essence (.) of life (.) on
                   earth
110   Ivan:        god is the essence
111   Teacher:     the essence of life on earth (.) be
                   careful here (.)
112                to come close to god (.) the essence
                   of life on earth
113                (.) you said something right? ((points
                   at a student))
114   Ivan:        no: we:ll I think that (.) of god (.)
                   as the essence
115   Teacher:     and what and what is in the nature of
                   a man (.) when
116                the knowledge is concerned? (.) hm you
                   know (.) what
117                agnosticism is? (.)  you  know  what
                   agnosticism is?
118                you learned that in philosophy
119                ((murmur  while  they  are  trying  to
                   remember the answer))
120   Filip:       [a doubt]
121   Nevena:      [a doubt]
122   Teacher:     what?
123   Filip:       an agnostic doubts
124   Teacher:     yes (.) he doubts in?
125   Filip:       he doubts everything=
126   Teacher:     =in   the   knowledge   (.)   his   own
                   knowledge (.) but
127                what is in the nature of a man? (2.0)
                   So (.) what you can sense (.)
128                what exists in the human nature (.)
129                when  the  knowle:dge  is  concerned  to
                   what does a human being strive?
130                ((points with hand in the direction of
                   a student))
```

In the excerpt 4, the teacher starts by summarizing students' previous answers, which extends initiation phase of the question

raised, making it fairly unclear (lines 90 to 97). Questions that follow are short and more focused or are simple repetitions of students' answers as a form of acceptance of what has just been said (line 107 "*to come closer to god*"). In the line 111 repetitions continue with an addition of "*be careful here*", although students are neither explained why they should be careful in the meanings they provided in previous turns, nor a space is opened to further discuss the issue. A new question is raised aiming to test students' knowledge (lines 116-118 "*what agnosticism is? you know what agnosticism is? you learned that in philosophy*") rather than to evoke new meanings and interpretations. In those terms, the teacher assumes the role of what Berry (1987, in Tsui et al., 2004) calls the "primary knower", the one who is responsible for disseminating knowledge to others. Questions are raised not to seek information, but to provide with answers that are already known to the teacher himself. But after students reply on what agnosticism is (lines 120, 121 and 123), the teacher provides them with a more suitable formulation of the answer (line 126 "*in the knowledge his own knowledge*") continuing with another question (line 127 "*what is in the nature of a man?*"). The situation is quite opposite in the case of the modern type teacher. The following excerpt 5 is an example of a discussion taking place on whether the poem Festivity is a love poem or a reflexive one.

Excerpt 5

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

```
107   Teacher:      just a second (.) if this is a love
                    poem?
108   Students:     it's not
109   Teacher:      not anymore?
110   Vuk:          no
111   Teacher:      then what is it?
112   Goran:        reflexive
```

```
113   Teacher:     reflexive why is it reflexive?
114   Vuk:         because maybe love isn't its basis (.)
                   although there
115                is a motive but it isn't the basic
                   one=
116   Teacher:     =just let me tell you (.) in all the
                   literary critics
117                it is said that it's a love poem
118   Marko:       °they are lying° ((laughter in the
                   class))
119   Irena:       all depends on how you look at it-
120   Teacher:     let's act as if it is not (.) why is
                   it reflexive?
121   Vuk:         well cause (.) I don't know love
                   passes through the
122                poem (.) but it is no:t the main as a
                   topic (.) cause
123                the ((story)) of the two in that poem
                   it is not about
124                their love (.) it is about them being
                   different from
125                others and cause they feel ni:ce where
                   they are and
126                'ca:use
127   Teacher:     that's right and whom is the poem
                   addressed to?
128   Vuk:         well it is addressed to people
129   Teacher:     that's ri:ght bra:vo! (.) so that's
                   the point of the
130                story if it's a love poem then I say
                   you are my
131                darling (.) I am your darling and we
                   love each other
132                and we feel great and it's really good
                   for us and we
133                love each other >and so on and so on<
                   (.) topic of
134                joy and those emotions inside of me=
135   Vuk:         =(  )
136   Teacher:     but when I say we came down from our
                   wits and you are
137                looking at us from the other side (.)
                   and crying
```

138   there behind that fence (.) eh then it tells about

139   something higher (.) <u>so</u> we have to pay attention

140   <u>not</u> just to the topic but to hm to whom the poem is

141   actually addressing *((gestures a sign for quotation marks))*

142   (.) so: to me to you hm and so on (.) that is

143   why I say to you <u>don't</u> always rely on literary

144   critics (.) maybe this is blasphemy what we are doing

145   right now <u>cause</u> you will <u>evidently</u> read everywhere

146   that it's a love poem (.) <u>but</u> it's (.) essentially a

147   reflexive one *((points at the board))* cause it is (.)

148   it also speaks about some other issues as well

The "modern" type teacher does not take the position of the "primary knower" per se. Questions have a tendency to be shorter (lines 107 to 113) and are fairly opened in their nature (line 120 "*let's act as if it is not why is it reflexive?*"), while students' answers (e.g. Irena's turn, line 119) are not treated as appropriate vs. inappropriate ones. Speaking of opened questions, a "closed" one is considered as the question having only one right and acceptable answer, whereas an open question is the one that has a number of right answers or a range of possible ways of presenting the answer (Maker et al., 1996; Tsui et al., 2004). In this excerpt the teacher is still the one initiating the question while the students answer to it, but instead of "just" evaluating students' answers (lines 127 "*that's right and whom is the poem addressed to?*" and 129 "*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. In this case, there is an explanation: why do they believe that the poem discussed in class is no longer a love poem but rather a reflexive one? When evaluation appears again at the end it is not at the level of correct / incorrect answers, explanations are rather built from answers provided by the students (line 136 "*but when I say 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 so we have to pay attention not just to the topic but to hm to whom the poem is actually addressing*"). Thus questions are used to bring up critical aspects of what is to be learned – reflexivity of the poem into students' focal awareness, while enough space is created for a further inquiry. In similar vein, laissez-faire type teacher uses an open question to offer a space for further inquiry on reflexivity of the poem Eagle, which is discussed in the lesson. Yet, outcome is different than the one given in the previous example.

Excerpt 6

The laissez-faire teacher, lesson topic - literature work of Djura Jaksic, the poem Eagle

```
313   Teacher:      reflexive that's right ((writes down
                    on the board,
314                 murmur)) (4.0) well now Marija since
                    you were the
315                 first to notice this (.) how did you
                    come to the
316                 conclusion that this is a symbolic,
                    that is a
317                 reflexive poem?
318   Marija:       well because he doesn't really talk
                    about the eagle
319                 (.) but he wants hm through the poem
320   Teacher:      all right
```

```
321   Marija:      as   symbolic   to   express   his   own
                   contempt towards the
322                world
323   Teacher:     all right (.) all right, so you have
                   noticed that the
324                eagle here is actually (.) a symbol of
                   something
325                right? that is a substitute for whom?
326   Žarko:       (  )
327   Teacher:     you have recognized the poet himself
                   in the eagle
328                right?
329   Marija:      °yes°
330   Teacher:     a:ll right (.) this is mostly correct,
                   it can be the
331                poet, although it doesn't have to be
                   just the poet
332   Žarko:       it can be his wife
333   Teacher:     it can be any other=
334   Marija:      =man who=
335   Teacher:     =man who chooses himself for this way
                   of life
336   Marija:      °yes°
```

In the excerpt 6 the teacher starts with a similar form of opened question (lines 315-317 "*how did you come to the conclusion that this is a symbolic, that is a reflective poem?*"), but then she continues with a more directive type of questioning (lines 323 and 325). Her interventions end by providing the "right" answer instead of students to whom the questions are addressed to (line 335 "*man who chooses himself for this way of life*"). Therefore, from opened and "question seeking information" type questions she comes to the position in which questions became the known information questions type, although this may not have been the initial plan. And instead of eliciting space for new meanings and discussions, knowledge is again tested.

Questions do not exist solely to fill in time in classroom, but they rather contribute to creating a space for learning. This "learning space" is constituted linguistically through questions a

teacher asks and responses elicited by the students (Tsui et al., 2004). However, different questions teachers ask and their order do focus students' attention differently with respect to what has to be learned. When teachers modify questions in order to elicit responses from their students, learning experiences provided may greatly vary from classroom to classroom. It is the real activity that the modern type of teacher has done in the excerpt 5 (line 121 "*let's act as if it is not*").

Once a teacher asks an open question, the space for learning widens. Such questions not only challenge students to consider various 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. When a student formulates an answer he/she is compelled to clarify his/her thinking and understanding of the concept at stake, whereas if the question is closed, possible answers are narrowed down to one choice, which leaves very little space for students to explore them.

Space and time for students' answers

Most frequently discussed talk format in class is without any doubt the recitation format, corresponding to IRE sequence. Such a format presumes a teacher being in control of both content and direction of the exchange that takes place in classroom, which leaves very little space (if any) for students to explore possible variations in their answers or to draw on new arguments. On the other hand, a position-driven discussion gives opportunities for students to listen to each other and to build upon their ideas, as well as the ideas of others. Considering the whole class interactions that took place in all three lessons described in this chapter, formats predominantly used are either the recitation or the whole group position-driven discussion.

In the case of the modern type teacher, such positioning of students corresponding to the whole group position-driven

discussion could be seen all the way throughout the lesson. In the example bellow the teacher 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 or if it is more autobiographic in its nature. 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.

Excerpt 7

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

```
548   Ivan:       well  I  would  just  like  to  make  the
                  same (.) like some
549               sort  of  a  parallel  with  what  we  will
                  do ( ) with and
550               quiet flows the don
551   Teacher:    all right
552   Ivan:       the  first  or  the  second  book  (.)  I
                  don't remember hm
553   Nina:       (  )
554   Ivan:       wai:t  a  sec:ond  so  ((laughter in the
                  class))
555               Sima  Pandurović  so  in  their  madness
                  there is some system
556               (.)  it's  what  is  mirrored  through  the
                  critics of the
557               society  (.)  e:  now  the  same  was  hm
                  just I don't know
558               wi:ng  commander's  name  was  Gavrilo  (.)
                  just don't
559               know whose commander he was whether he
                  was Lisicki's
560               or Petar Milehov's I am not sure
561               ((murmur to this comment))
562   Teacher:    all right
563   Ivan:       at the moment of the war
```

```
564   Teacher:    this means nothing to them, as I see
                  that (.) they
565               read sparingly ((some laugh at this))
                  this laugh
566   Ivan:       well I haven't either=
567   Teacher:    =it doesn't matter! it is important
                  that you read
568   Ivan:       so in the second (.) so in that
                  poverty that the
569               Kozacks were exposed to because the
                  government didn't
570               give them what they wanted a:nd hm and
                  regarding that
571               war that he was surrounded with (.) he
                  began singing
572               songs hm: something that he alludes
                  (.) alluded
573               alludes (.) alluded that they have (.)
                  had done
574               everything for for the government as
                  something as
575               who-what? ((addresses Nina who is
                  saying something to
576               him, his question at the end makes the
                  class laugh))
577   Nina:       (quiet flows the don) well we are not
                  talking about
578   Teacher:    >no no no< he wants to make a parallel
                  and he has
579               come to an idea, all right when one
                  sings
580   Ivan:       it's the same with him (.) with
                  Gavrilo in his=
581   Teacher:    =aha
582   Ivan:       madness after the fall of I don't know
                  some grenade
583               something I don't know there is
                  exactly that system
584               again because through that song he
                  literally
585               criticizes the state how the Kazaks
                  we:re (.) he off
```

```
586                  course  as  the  chickens  which  were
                     slaughtered by the
587                  Turks (.) I don't know either (.) it
                     doesn't matter
588   Teacher:       all right
589   Ivan:          the same here again the same i:n his
                     madness he says
590                  himself  he  came  down  with  his  wits
                     which is off
591                  course  absurd  (.)  because  a  crazy
                     person would never
592                  say  about  himself  that  he  has  come
                     down with his wits
```

Ivan makes a comparison between Kazaks in the novel and the poem they were talking about, which seems very unclear to other students since they have not read the novel yet. Ivan explains how 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. However it takes some time for Ivan to formulate his ideas and this bothers some of the students. There is laughter while he mentions specific characters from "Quiet flows the Don" (lines 559 and 560). The teacher encourages him to continue by saying "*this means nothing to them, as I see that they read sparingly this laugh*" (line 564) and "*it doesn't matter! it is important that you read*" (line 567), when he seems uncertain. Another student, Nina, gives direct comments on the subject. Although her first comment is not clear (line 553), Ivan's "*wait a second so*" in the next line and laughter in classroom could be interpreted as reactions to her disapproval. After her comment in the line 577 "*quiet flows the don well we are not talking about*", the teacher replies "*no no no he wants to make a parallel and he has come to an idea, all right when one sings*" (line 578) again giving Ivan the floor and enough time to explain what he had in mind until the end of the sequence.

In the following exchange concerning the lesson of the traditional type teacher, the discussion is based on questions related to the nature of the man and his striving to knowledge.

The teacher addresses questions about knowledge, soliciting two students' answers.

Excerpt 8

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

```
127   Teacher:    =in   the   knowledge   (.)   his   own
                  knowledge (.) but what
128               is  in  the  nature  of  a  man? (2.0) So
                  (.) what you can
129               sense  (.)  what  exists  in  the  human
                  nature (.) when
130               the  knowle:dge  is  concerned  to  what
                  does a human
131               being strive? ((points  with  hand  in
                  the direction of a student))
132   Nevena:     when  the  knowledge  is  concerned, man
                  essentially (.)
133               dou:bts everything, simply strives to:
                  get a new
134               concept  (.)  strives  to:  learn,  to
                  understand the
135               world  around  himself  (.)  how  to  cope
                  best in it a:nd
136               in  the  Faust  they  exactly  examined
                  everything upside-
137               down  those  are  (definitions)  and  the
                  philosophy of
138               the  two  different  worlds  but  he  took
                  two different
139               roads  a:nd  and  came  to  the  same  end
                  (.) he used so
140               many  sciences  and  those  sciences
                  helped him
141               essentially  to  learn  about  the  world
                  around himself
142               (.)  to  essentially  penetrates  the
                  human core
```

```
143    Teacher:    so aha ((responds to the student who
                   raised her hand))
144                go ahead
145    Ana:        no I think that Faust wanted to learn
                   about the world
146                outside this one
147    Teacher:    (2.0) but what do you imply (.) by the
                   world which is
148                outside this world?
149    Ana:        well well the world one cannot see=
150    Teacher:    =the  essence  of  the  world's  being
                   right?
151    Ana:        °well let's say°
152    Teacher:    but hm hm (.) that's very hard to
                   understand (.) so
153                what does (.) hold together cosmos (.)
                   let us say?
```

After the initial teacher's question, Nevena is the first student taking the turn of talk: she elaborates a prolonged answer (lines 132 to 142) and she is not interrupted by the teacher while she explains her stand. When another student, Ana, takes the turn of talk (line 145), an opposite situation occurs. She gives an answer in contrast to Nevena's position ("*no I think that faust wanted to learn about the world outside this one*") and the teacher immediately prompts for a further explanation (line 147 "*but what do you imply by the world which is outside this world?*"). Yet, when Ana tries to answer, teacher reformulates her intervention (line 150 "*the essence of the world's being right?*") and raises a new question without any space for Ana to explain her thought.

The next excerpt concerns a lesson of the laissez-faire teacher. The dialogue is led around symbolic nature of the word "eagle" in the poem and the question is about what kind of life an eagle depicts in the poem itself.

Excerpt 9

The laissez-faire teacher, lesson topic - literature work of Djura
Jaksic, the poem Eagle

```
338   Teacher:      and what way of life is that?
339   Žarko:        a flying one ((laughter))
340   Teacher:      Žarko! (1.0) I only ask of you not to
                    be worse in
341                 this class than you usually are (.) I
                    ask of you only
342                 that ((murmur)) so what way of life is
                    that?
343   Marija:       well (.) as if he doesn't find
                    serenity anywhere and
344                 here he says (.) so he is close to the
                    sky ((looks at the verses in the
                    book))
345                 as if not in the sky but not
346                 on the ground either
347   Teacher:      aha (.) so an eagle (.) is always a
                    symbol or mostly
348                 in this poem hm is so (.) is a symbol
                    of something
349                 (1.0) something?
350                 ((asks for an answer from the
                    students))
351   Žarko:        nice
352   Student:      what an eagle?
353   Teacher:      an eagle
354   Student:      °freedom°
355   Teacher:      of something free freedom (.) of
                    something striving
356                 to freedom (.) of what else?
357   Aleksandra:   (1.0) pride
358   Teacher:      proud (.) all right
359   Student:      °say it°
360   Aleksandra:   fearless
361   Teacher:      fearless correct (.) so all this
                    symbolizes an eagle
362                 right? close to the sky is the
                    enchanting mountain
```

363		*((verses))* in enchanting mountain (.) the eagle lives,
364		right? not even a soaring he does not need(.) just to
365		let go his careless wings (.) he has despis'd a world
366		despised long ago *((reads verses from the book))* (.)
367		so the sky is close to the enchanting mountain, and
368		he has despised world long ago despised, right? (.)
369		why has he despis'd it? that is despised? (1.0) he's
370		not content?
371	Tamara:	and then ( )=
372	Teacher:	=is he the first one who's not content with that
373		world?
374	Marija:	well no (.) cause he says=
375	Teacher:	=he has despised a world despised long ago
376	Marija:	well he isn't, cause he says a long ago despised
377		world
378	Teacher:	aha (.) it means that the world (.) has been
379		negatively rated by people long time ago (.) right?
380		so he observed that as well (.) so he does not belong
381		to the ground (.) he with some (.) you have said it (.)
382		Aleksandra proud (.) that is true <u>and</u> now I ask you
383		again (.) what does it mean overbearing? Or
384		overbearin'? but you have already said (.) proud (.)
385		what else are the synonyms?
386	Aleksandra:	°fearlessness° *((murmur))*

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Students are giving their interpretations of how life is depicted in the poem. Marija gives her own interpretations and uses verses to support her claims (lines 343 to 346 "*well as if he doesn't find serenity anywhere and here he says so he is close to the sky as if not in the sky but not on the ground just as well*"). After her reply, the teacher directly asks the students "*so an eagle is always a symbol or mostly in this poem hm is so is a symbol of something something?*" (lines 347 to 349). After one of the students says "freedom" as an answer to that question, the teacher does not use this opportunity to find out what the meaning of freedom is but rather gives an explanation on her own "*of something free freedom of something striving to freedom of what else?*" (lines 355 and 356) ending with a new question on what else the eagle could stand for. Pride and fearlessness are offered as new meanings. Again, these are not further investigated on. The teacher is giving a summary in lines 361 to 369 and then she raises a new question once more "*is he the first one who's not content with that world?*" (line 372). But just as the student, Marija, starts answering "*well no cause he says*" (line 374), the teacher continues providing with the verses that answer her own question (line 375 "*he has despised a world despised long ago*"). Again, Marija tries to give her own interpretation (line 376), which the teacher evaluates by shortly stating "*aha*" and then she continues with the full explication "*it means that the world has been negatively rated by people long time ago right? so he observed that as well so he does not belong to the ground*" (lines 378 to 381). Although when the teacher asks "*it means that the world has been negatively rated by people long time ago right?*", the question could be interpreted as an attempt of revoicing and opening the floor for Marija, but the teacher does not leave any space for other argumentative interventions.

All three teachers raise questions in classroom that would correspond to the whole group position-driven discussion; a particular problem is discussed and that problem has more than one answer for which arguments could be made. However, only in

the case of the modern type teacher representative this positioning is fully used even at the level of giving enough time and space for the student to develop his/her idea, to construct new ideas, meanings and understanding. In the other two cases, both teachers raise important issues (the nature of humans striving for knowledge and symbolical meanings of words used in a poem) for which arguments could be provided, but at the end they are the ones prescribing the meaning and not the students themselves.

Conclusions

In this chapter we discussed how teachers use different conversational acts to create various opportunities for developing new meanings and interpretations in class. We focused on language use, questions raised and on how teachers' practices can open or narrow down the space in which students can acquire a chance to develop their own ideas and thoughts in relation to specific literature forms. In the context of learning situation, as in the classroom, the language used by both a teacher and students is therefore of critical importance. It plays a central role not just in the construction of experience, but more importantly, as Marton et al. (2004) argue, it composes the experience in itself.

We highlighted the importance of raising questions in the classroom and how they may be raised in different ways and with different agenda. However, a situation in which the teacher raises a question and students answer to it is a very common one in classrooms all over the world. Tsui et al. (2004) state that students who know the questions are not asked just for their own sake, but that they have a pedagogical drive behind them. This drive may not be obvious to them, but as a result, when a teacher asks a series of questions, students try to answer as best as they can. If a question is asked in a way that the student's answer needs to fit into the syntax of a partial sentence the teacher has provided

him/her with, this lessens the linguistic burden on students to formulate their reply. It can also lead to students guessing on the "appropriate answer a teacher had in mind" and most importantly it narrows down the possibilities to explore variations, meanings and constructions. On the other hand, some questions are raised in such a way that they allow students not just to express their own opinions, but rather oblige them to carefully think about their positioning in order to construct an answer which can make sense not just for them, but preferably to the whole classroom.

All three teacher types we examined in this chapter showed both similarities and differences in conversational acts they uses. While "laissez-faire" and "modern" type teacher are prone to use language that is considered more familiar to the students, the "traditional" type teacher seems to keep the conversation on more formal grounds. As teacher is expected to be aware of how much is shared between him/her and the students, this awareness is needed already at the level of the language use. We have observed that the recitation format is widely used within the "traditional" way, while the position of different discussion formats is mostly evident in the activities of the "modern" type teacher. Questions asked by teachers call for argumentation, while the students are given enough time and space to develop on it. Although we have not observed different teachers' practices in their use of various conversational acts in terms of bad vs. good ones, we would like to highlight how the space for interpretation and construction of new meanings seems to get wider in the case of the modern type teacher. Along the lines of what Arminen (2005) described as flexibility in initiation-response-evaluation sequence, this flexibility appears to be evident to a large extent in the case of the modern type teacher, making it an important interactional resource 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.

What are the educational implications of the analysis we provided in this chapter? Without any doubt, the teachers are one

of the crucial factors along the process of students' learning and development. To a large extent they are creators of the learning environment in which students reside. As a result, an in dept study of what takes place in class during teacher-student interaction and which specific moves lead to particular answers and behaviors may be an important resource for understanding classroom dynamics; not just for an ongoing academic discourse on the subject, but especially in terms of future teacher training of both pre-service and in-service teachers. In that respect, the type of results that are reported here could be equally useful for teacher educators, supplying them with an important instructional tool; and for teachers themselves, helping them to better understand the dynamics of what takes place in class regardless of whether they have already entered it or not.

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Chapter 6

Turn-taking at the age of one: A longitudinal case study

Mirjana Mandić

The main work in the domain of language acquisition is usually concerned with the acquisition of grammar and lexicon, as the two core aspects of language. Nevertheless, over the past few decades much attention has been paid to the analysis of conversational skills development. Many researchers who analyze conversational skills emphasize that language is learned in the context of interaction with others. This social-pragmatic approach assumes that language development does not include the word and grammar acquisition only, but language socialization as well: learning language is *"learning to use language as do adult members of one's social group"* (Hoff, 2003, p. 184). According to Clark (2003), *"it is in and from interaction that children are offered conventional ways of expressing attitudes and of saying things, along with the conventional words and expressions for what they appear to be trying to say. And it is in interaction that children take up these words, expressions and constructions"* (p. 25).

The process of social interaction and communication begins within the adult-child dyad. This paper focuses on the turn-taking in the mother-child dyad at an early age. In the introductory part, we briefly describe the importance of the adult-child interaction in the two types of early communication, namely: affective and

practical-situational communication.[1] Afterwards, we concentrate on the findings on the turn-taking development.

Language development and social interaction

It has been found that children become socially competent soon after birth: they are highly sensitive and selectively react to social environment, particularly to social stimuli such as human face (Morton & Johnson, 1991) and speech sounds (Ivić, 1987). Certain specific social reactions early appear, along with the child's ability to initiate the social contact (such as social smile). There is an autonomous motivation for establishing the attachment and communication, independent of satisfying the biological needs the child has.

An important manifestation of the social competence is the children's motivation for establishing "reciprocal affective communication", that prepares conditions for development of attachment (Ivić, 1987). On the one hand, infants produce signals which inform adults about their motivational and affective states and needs. Within the affective communication different means of communication are formed: facial expressions (such as lips movements, mime), the system of gestures (head, arms and legs movements), the role of physical proximity (the use of space in communicative purposes), paralinguistic means (intonation, pitch and timbre), and gaze (gaze direction, fixation, etc.). Even though these acts are of expressive kind for a child, the adults take them as communicative acts. Adults manifest the ability to interpret children's signals and to react to them as if children intend to inform them about their motivational and emotional states. The affective communication in the adult-child dyad is important because it builds the pattern of social interaction which constitutes the starting point for any communicative exchange. It

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[1] This distinction and terminology is proposed by Ivić (1987), the translation is ours.

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is through the affective communication that the child learns to communicate: a child comprehends the role of a speaker and a hearer, the behaviour of the two partners in communication, the turn-taking (as the sequences in communication), the child learns to produce and understands signals, and to effectively exchange turns (Ivić, 1987).

Besides the affective communication, there is another type of communication particularly important for the development of conversational skills and language skills in general: the practical-situational communication. This type of communication, which emerges from the affective communication, does not transfer the information about the child's internal states, but represents the exchange of messages about the environment and external stimuli. It is developed in everyday joint activities between a child and an adult, such as nursing, feeding, object manipulation, games, etc., and represents the exchange of information related to the situation and environment. Adults include children in practical activities, and children gradually discover the meaning and purpose of objects, actions, social roles, space and time through these shared activities (Ivić, 1987). Moreover, children's activities that are first interpreted as expressive signals become transformed into communicative acts and get communicative value/meaning. Practical activities are transformed into the communicative and symbolic activities in the sense that adults constantly make verbal comments on what they observe and what is happening during the shared activities (Ivić, 1987). There is a simultaneous translation from the language of practical-situational communication to the verbal language. Given that this "translation" provides more information than needed, it enables the child to break into the language code.

The affective and practical-situational communications are both types of presemiotic communication. The key difference between them is that the affective communication is expressive: children inform about their internal states and needs. On the other hand, the practical-situational communication involves

communication about the environment as well as the reactions to the external stimuli.

According to Ivić (1987) and Bruner (1975, 1977, 1983), there is a continuity in the process by which children communicate with others prelinguistically and linguistically. And joint attention is crucial here. Infants learn to understand new information about the language by following into the adults' attentional focus as they refer to various entities in the environment. Language is, thus, learned in the context of interaction with others, mainly in routines such as feeding, dressing, interactive games and book reading. These repeated routines create a shared referential context within which the adults' language becomes meaningful to the prelinguistic child (Carpenter et al., 1998). In addition, in these types of situations children are given the insight into the conversational patterns.

Turn-taking in language development

As participants in conversation, children must learn to take turns and to follow the rules. A conversation is a series of turns taken by more than one participant in interaction. The turn-taking is a fundamental unit of social action (Boden, 1994). The development of turn-taking is crucial to social interaction and to the development of conversation (Buckley, 2003). The system underlining talk is very simple, although highly specific. The model of turn-taking could be presented in the following way (Boden, 1994):

a) one speaker speaks at a time;
b) number and order of speakers vary freely;
c) turn size varies;
d) turns are not allocated in advance, but vary;
e) turn transition is frequent and quick;
f) there are few gaps and overlaps in turn transitions.

If a child is to acquire the rules of conversation and turn-taking, he/she must provide the appropriate contributions at the right moment of the exchange, needs to get both the content and the timing of turns right on each occasion, providing that each turn adds a new information to what is already given (Clark, 2003). Although this might seem as a difficult task, children are quite successful in performing it.

Children learn to take turns in both vocal and nonvocal interactions form an early age. The amount and scope of conversation between mother and child is related to how coherent and well organized the child's utterances are and to how well the child uses language (Lieven, 1978). Conversational exchanges between an infant and an adult may be minimal at first in the sense that the adult participants may effectively supply all the turns. However, although mothers do most of the talking, they accept children's responses as legitimate in turn-taking. At each age mothers treat infants' contributions as if children initiated an exchange and then respond to them accordingly (Buckley, 2003; Clark, 2003).

At the beginning, adults rely on the perceptual information and joint attention in order to understand children's utterances. Before they start producing their first words, babies use looking, moving, gestures, sounds and early word approximations to establish a shared focus of attention and perform a range of communicative functions, and parents rely on their direction of gaze, pointing, and even body orientation (Buckley, 2003; Clark, 2003).

At the age of 4-6 weeks infants begin to engage in the direct face-to-face interaction with adults (Trevarthen, 1979). We observe the social smile and expressions of different emotional states expressed in these face-to-face interactions (Buckley, 2003). The beginning of turn-taking is observed in the "gaze coupling" of infants and adults which indicates the development of joint attention: starting at the age of 6 months, the child is looking at the same objects as the mother, or looking at the object

the mother is pointing at. The role of joint attentional engagement has been proved to have a major role in the communication development. It has been found that the amount of time infants spent in joint engagement with their mothers and the degree to which mothers used language that followed into their infant's focus of attention – predicted infants' earliest skills of gestural and linguistic communication (Carpenter et al., 1998).

At the age of 3 months we observe random arm movements, which will develop into gestures. In particularly, grasping and reaching gestures are observed at the age of 6 months, and at the age of 9 months children become able to point. In time, children learn to respond to gestures with gestures (such as waving bye-bye, kissing, clapping, etc.). The research carried out by Iverson and Goldin-Meadow (2005) has shown that gestures played a facilitating role in early language development. They distinguished between the deictic gestures that indicate referents in the immediate environment (such as showing, index finger pointing, palm pointing), conventional gestures that have a form and meaning that are either culturally defined (as nodding the head 'yes') or specified in the context of particular caregiver-child interactions, and ritualized reaches (such as arm extensions toward an object).

Except for looking and gestures, early sounds may also have meaning in the mother-child interaction (Buckley, 2003). The earliest means of communicating needs is certainly crying. At the beginning, it is related to internal physical states, such as hunger, pain, or discomfort. As the child grows, crying continues to be an important means of communication. Some other sounds, such as vegetative sounds, cooing, laughter, vocal playing, babbling and sound imitation games also transfer certain meanings to the mother and based on them, the mother infers the child's attentions or states. These sounds may become "protowords" – if they are intentional, sociable and if the child communicates with the goal in the mind.

Early nonverbal joint interactions around a shared focus of attention have been found to provide support for children's early verbal interaction. Around the age of one, children start using their first words. The role of context is crucial: repeated experience accompanied by relevant talk helps children to make the link between the words and their referents.

Even at the earliest ages, children are treated as conversational partners by their mothers. This has been observed as early as the age of 3 months during face-to-face play sessions and feeding sessions in which mothers and children participated in. Starting from the age of 8 or 9 months on, children are fairly good at the turn-taking aspect of conversation at least in dyadic situations with adults. By the time they start producing their first words, children can typically sustain long bouts of well-timed turn alternations with mothers (cf. Ninio & Snow, 1996, for review).

Several researches have shown that the mother-child turn-taking is highly efficient in book-sharing activities from 8 to 18 months of age, which provides a cornerstone for further development of conversational skills. After the age of 18 months, children can participate in conversations that involve each partner taking two turns. By the end of the second year, children have mastered that turns alternate in conversation and that only one person talks at a time. However, they still allow long pauses in conversation and find it hard to break into others conversations due to the difficulty in contributing something novel about an established topic (Buckley, 2003).

When they fail to make themselves understood, 1- and 2-year-olds try again, relying extensively on gesture to supplement their small vocabularies (Clark, 2003). Reasons for children's turn-taking failures are various: the lack of skill in turn-taking; when they do not understand the interlocutor or they do not know what to say on the topic; or some kind of cognitive limitations on control over conversational implicatures (Ninio & Snow, 1996). However, many problems of conversational management are eased for children by the availability of highly cooperative adult

conversational partners. In addition, children's violations of some of the rules governing adult conversation are not considered serious.

Aims of the study

The aim of this study is to explore what is considered to be a child's turn in the mother-child interaction at the earliest ages of language development and to investigate how turn-taking skills emerge and improve over time. The goal is also to provide a classification of "utterances" that serve as turns in mother-child conversation.

Besides looking at the use of different language means, which could clearly constitute a turn in the conversation, we are also interested in investigating the role of preverbal vocalizations, gestures, facial expression, gaze (shift), and all the actions that the adults interpret as turns regardless of the child's communicative intents.

Methods

This is a longitudinal case study of a child learning Romanian and Serbian. The study started following the child in the interactions with the adults from the time she was 1;0,1. Interactions were videotaped over the five month range.[2] The child was videotaped during several activities: spontaneous play, mealtime, picture-book reading, dressing and changing routines. For the purpose of this research we have analyzed the mother-child interactions during the mealtime activities.

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[2] The initial plan was to videotape the interactions every two weeks. However, such a frequency was not possible due to the family's trips to Romania and the child's illness.

For the analysis of the mealtime situation we have selected sequences conducted at the ages of 1;0,1, 1;0,17, 1;3,9 and 1;3,27, which lasted 16, 19, 15 and 12 minutes each, respectively. In line with our goals, we have focused on the mother-child interaction even though there were other adults present in some of the recording sessions.[3] We did not exclude sequences of the child's interactions with other people nor the interactions between the adults if they were relevant for the analysis.

Given that the notion of bilingualism is not relevant for our research, we do not treat it in the paper. Nevertheless, speech in both Serbian and Romanian is included in the analysis for several reasons:

1) the mother addresses the child in both languages;

2) the child's first words come from both languages;

3) if we concentrated on one language only, we might lose some relevant data concerning the turn-taking.

We have used the transcription system of Conversational Analysis (CA) proposed by Jefferson (2004). However, one symbol has been borrowed form the CHAT transcription format (MacWhinney, 2000): the symbol '&' is used before a string to indicate a phonological fragment or a piece of word that sounds similar to a sound or a fragment after the '&' symbol (e.g. &m indicates that the produced sound is similar to the sound /m/).

The analysis is performed in the following way: after going through the videotaped material and transcripts concerning the mealtime activities we have made the categories of "possible" turns in mother-child interactions and chosen the excerpts. It is important to emphasize that the classification is made based on the mother's reactions to the child's stimuli. Afterwards we went through the overall data corpus again in order to check our previous classification and verify the pertinence of the categories. At this step of analysis we have narrowed down the number of

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[3] The grandmother and the father were present occasionally, while the experimenter participated in all recording sessions.

excerpts and chosen only those which are the most illustrative for this purpose.

Types of turns in the child language:
The qualitative analysis

The analysis shows that there are several types of turn-taking situations, i.e. several types of child's behaviours and actions that constitute a turn in the mother-child conversation. We briefly introduce the classification and criteria we used in order to classify turns and then elaborate and illustrate each category. Given that we are interested in how turn-taking skills improve over time, we take a look into the developmental change as well.

Our data reveal that it is important to distinguish between **intentional and unintentional communication** with regard to the child's intentions for communication. As it has already been described in the literature, **unintentional communication** is expressive, usually occurring in response to internal or external stimuli (Buckley, 2003). This type of communication is observed even at the earliest ages. On the other hand, **intentional communication** occurs as a child's intent to communicate with others, i.e. due to the child's intention to bring about some change or elicit some response from people (Buckley, 2003).[4]

It is important to emphasize that the difference between unintentional and intentional communication is not the developmental one. Unintentional (affective) communication is present at all ages; it is not the phase that precedes the intentional communication. According to Ivić (1987), even though the affective communication is a prerequisite for the development of

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[4] Even though we have tried to classify all behaviours as 'unintentional' or 'intentional', there are certain behaviours for which we cannot conclude whether there are intentional or not (certain gaze shifts, for example), and for some of the ones listed as unintentional we cannot be sure that they show a complete lack of intent or motivation for communication.

semiotic (symbolic) communication, the semiotic communication does not immediately follow it. The affective communication does not transform into the semiotic communication, but rather continues to develop and exists at later ages as well. The affective communication is based on the expression of internal needs, it is a signal about internal states, and it informs us about here-and-now (Ivić, 1987). It becomes communicatively less pertinent over time, since at later ages the mother responds to intentional stimuli rather than the plain, ordinary, uncommunicative actions.

In relation to Ivić's terminology, it is important to point out that the notion of intention is not the only feature that distinguishes between the semiotic and pre-semiotic communication. Besides the 'intention', the operation of denotation is one of the key differences. It is clear that the use of symbols and the overall semiotic communication is intentional: the conversational partners exchange symbols in order to transfer the meaning and to communicate with others. In addition, when they do so, they refer to certain referents (present or absent, concrete or abstract), which indicates the presence of the operation of denotation.

The reason for us to take the presence or absence of intention in the conversation as an important criterion for the analysis of turn-taking is the fact that we want to show that even unintentional behaviours serve as a trigger for communication. They might represent stimuli that the mother responds to as if they were communicative, hence these behaviours become turns in the conversation.

1. Unintentional communication

In our data, even though the child does not show any intention to communicate in certain situations, some of her actions receive the communicative value, i.e. they become turns in the conversation, because they elicit mother's responses. The mother

behaves as if the child has uttered actual words and thus shares in the construction of meaning. Unintentional communication includes the following types of actions:

a) nonlinguistic behaviour such as coughs, burps, sneezes;.

b) different types of actions whose aim clearly is not to bring some change in the conversation (e.g. eating properly, successfully taking the fork or the piece of food, playing with a fork or a plate, etc.);

c) absence of action, i.e. the situations when the child simply does nothing, except sitting in a chair (or on the floor) or staring at one point;

d) gaze shifts which are not intended as communicative, but indicate that the child has changed the focus of attention or simply has become interested in something else.

In the adults' conversations participants take turns intentionally and compete for the next turn. As we illustrate with the following excerpts, the child is sometimes given credit for turns she did not take at all. Conversation of this kind is extremely important in language development because it is through the conversation that children learn not just the meanings of words and grammar, but the pattern and rules of communication as well. Mothers' verbal and other responses help children to construct the same meaning and establish the overall system of communication. In the unintentional communication, it is the mother who integrates or adds the meaning into the child's behaviour.

a) The first type of unintentional means of communication are nonlinguistic behaviours such as coughs, burps, sneezes, etc. Even though the child did not intend them as communicative (they are usually manifestations of certain physical states), they are sometimes treated as turns in the mother-child interaction. This is illustrated in the excerpts 1, 2 and 3. The excerpt 1 seems like a regular exchange of turns: the child's behaviour initiates the mother's response.

Excerpt 1

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The grandmother (GR) is also present. The experimenter is behind the camera. Age of the child: 1;0,1

```
1.  CH:      ((looks how the mother cuts the food))
2.  GR:      (                               )
3.  CH:      ((laughs and then takes the fork))
4.  GR:      yes.
5.  CH:      ((coughs))
6.  MO:      ye:s, Ana.
7.  CH:      ((coughs))
8.  MO:      ((laughs and rolls her eyes))
9.  GR:      yes.
10. CH:      ((the bite fells out of her mouth))
11. EX:      (it) fell (out).
```

In the excerpt 1, the child coughs (turns 5 and 7) and the mother responds to it (verbally in the turn 6 and nonverbally by laughing and eye-rolling in the turn 8). The grandmother reacts in the same way (turns 4 and 9). In addition, when the child coughs the mother usually expresses some kind of regret because the child is not feeling well at the moment. In the excerpt 2 (turn 3) and excerpt 3 (turns 3 and 4) the mother does this by prolonging the vowel.

Excerpt 2

Activity: mealtime (late lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter is behind the camera. The father and the grandmother cook lunch in the kitchen. Age of the child: 1;3,9

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1. MO:    ((addresses the father)) can you bring ə: wipes
          from my bag? the black one, aha. ((feeds the
          child))
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2. CH:    ((coughs))
3. MO:    o::. ((looks at the child))
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Excerpt 3

Activity: mealtime (breakfast). The child (CH) sits in the high chair, the mother (MO) feeds her and constantly wants her to blow on the hot food. The experimenter is behind the camera. Age of the child: 1;3,27

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1. CH:    °a° ((eats and then finger-points to the plate.
          It seems as if she wants to take food))
2. MO:    wait, wait, wait wait, cause it's hot if you
          don't blow. ((takes the food with the fork))
3. CH:    ((coughs))
4. MO:    o:. ((looks at the child, and then blows on the
          food))
5. CH:    ((points at the egg))
6. MO:    ((feeds the child))
```

b) Other type of unintentional means of communication includes underlined different kinds of actions the child performs. Even if it is clear that these are not meant to be communicative, the mother responds to them as if they are communicative. There are two types of situations of this kind.[5]
The first type of communicatively unintentional actions provoking the mother's response is when the child does something successfully and the mother responds to it and makes a comment about it. For instance, the child eats properly, succeeds in swallowing the food or takes the fork in the right way, as in the excerpts 4 and 6.

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[5] We might talk about the third type of actions, namely when the child fools around or plays with the fork in her mouth or hands. However, it is not possible to conclude whether these actions serve as play that should include other participants or the child plays for her own pleasure.

Excerpt 4

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) and the experimenter (EX) sit at the table. Age of the child: 1;0,17

```
1. MO:     Ana. ((the child eats alone with her own fork,
           but the mother still tries to feed her with
           another fork))
2. EX:     eh, (she) must (eat) with her own fork.
3. CH:     ((succeeds in sticking the food on the fork and
           eats by herself))
4. MO:     bravo::. ((laughs, looks at the experimenter))
5. CH:     ((smiles and gently waves with the fork and then
           continues eating))
6. MO:     &m? ((tries to feed Ana))
```

In the excerpt 4, the mother approves the child's action by saying "*bravo*" and by laughing (turn 4). The child's successful performance is a trigger for the real conversation pattern: after the mother's response, the child continues with her own intentional communicative turn as a response to the mother's turn: she smiles and waves with the fork (turn 5). The mother constantly makes comments about the child's successful performances, usually supporting her with "*bravo*". As in the excerpt 4, the turn which includes "*bravo*" usually provokes the child's positive reaction (smiling, laughing, applauding, etc). In certain cases, when the mother or other adults do not respond when the child successfully performs an action of eating, the child starts applauding herself, looking at the adults (compare the excerpt 5).

Excerpt 5

Activity: mealtime (late lunch). The child (CH) sits in the high chair and tries to eat by herself. The mother (MO) sits in front of

her. The experimenter is behind the camera. The father and the grandmother cook lunch. Age of the child: 1;3,9

```
1. CH:    ((eats))
2. MO:    bra:vo:.
3. CH:    ((eats and tries to get back the food she
          spilled. Then she smiles, applauds and looks in
          the direction of the experimenter))
4. MO:    bravo, bravo. ((laughs))
```

The excerpt 5 might indicate that, based on the previous similar patterns of conversation, the child expects the others to respond in a particular way. This makes this type of behaviour a true turn in the conversation.

In the excerpt 6, the mother initiates the child's action by preparing her to eat.

Excerpt 6

Activity: mealtime (breakfast). The child sits (CH) in the high chair; the mother (MO) feeds her. The experimenter is behind the camera. Age of the child: 1;3,27

```
1. MO:    ((blows on the egg)) (we) blow? ((comes much
          closer to the child)) well (      ). ((gets the
          pacifier out of the child's mouth)) take the
          pacifier out to blow. ((blows on the egg)) like
          this, Ana blows. ((puts the fork in front of the
          child's mouth and blows herself)) how do you
          blow?
2. CH:    ((blows))
3. MO:    ((blows at the same time as the child)) bra:vo.
          ((after saying this she brings the fork to her
          own mouth and blows, then she feeds the child))
4. CH:    ((eats))
5. MO:    ham.
```

In the excerpt 6, the mother takes the child's pacifier out of her mouth, makes comments on blowing on the food (turn 1). When the child correctly responds to it (turn 2), the mother continues the conversation supporting her with "*bravo*" (turn 3).

The other type of communicatively unintentional actions provoking the mother's response is when the child fails to do something. For instance, she fails to take the food with the fork which elicits the mother's comment, as in the excerpts 7 and 8.

Excerpt 7

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The grandmother (GR) is also present. The experimenter (EX) is behind the camera. Age of the child: 1;0,1

```
1. MO:            (                      ). ((helps Ana to
                  take food)) wait, wait.
2. CH:            0. ((eats and spills everything))
3. MO, GR, EX:    ((everyone  laughs  because  the  child
                  spills food, without noticing that))
4. MO:            ((addresses  the  child))  o:  ((addresses
                  the grandmother)) (      ). ((takes Ana's
                  hand  in  which  she  is  holding  the  fork
                  and sticks food on the fork))
```

As it is illustrated in the transcripts, in this type of situations the verbal reaction (excerpt 7, turn 4) is often followed by the mother performing the action correctly or helping the child to perform it (turn 4). In the excerpt 7, the mother even takes the child's hand in order to make the action right and to show her how she should hold the fork in order to take the food.[6]

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[6] This type of turns should be distinguished from the behaviours in which the child fails to do something, but the mother only laughs at her, not involving her in the interaction. We consider the behaviour in the excerpt 7 to be the turn

The excerpt 8 illustrates the same behaviour.

Excerpt 8

Activity: mealtime (lunch). The child (CH) sits in the high chair, the mother (MO) feeds her. The experimenter (EX) sits at the table. Age of the child: 1;0,17

```
1. MO:    pok. am.((feeds the child))
2. CH:    ((eats))
3. MO:    bravo.
4. CH:    ((spits the food))
5. EX:    i:: well why this?
6. MO:    [what have you done] now, ha? ((looks for the
          place where the child has spit the food))
7. EX:    [it isn't nice?]
8. CH:    ((looks at the experimenter))
9. EX:    [it isn't nice?]
10. MO:   [but why Ana?]
11. CH:   ((looks over her clothes to see where she has
          spit))
```

In the excerpt 8, the child spits the food (turn 4) and the mother asks her what she has done and why as if she has done it on purpose (turns 6 and 10). This excerpt shows the exchange of different child's communicatively unintentional actions (eating in turn 2, spitting in turn 6) and the mother's responses (turns 3, 6 and 10).

It is important to mention that this category of unintentional communication is always organized through the joint focus of attention, the focus being something that the child and the mother are doing at the moment. In the mealtime activities the focus is usually on the food or cutlery, as it is illustrated in the excerpts above.

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because the mother reacts in a way that engages the child in the action (helps her or explains her something).

c) Another type of actions which serve as a trigger for communication is <u>the absence of (re)action</u>, the situation when the child is not engaged into an on-going action. The child either does nothing or she remains occupied with what she is doing at the moment, as in the excerpt 9.

Excerpt 9

Activity: mealtime (breakfast). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter (EX) is behind the camera. Age of the child: 1;3,27

```
1. CH:    ((she smiles during the following 5 turns. It
          seems as if she wants to show what she is
          eating))
2. EX:    nice, ha? (it's) nice. ((smiles))
3. MO:    ((approaches to the child and imitates her face
          expression))
4. EX:    nice.
5. CH:    ((starts staring at one point in the direction of
          the window))
6. MO:    eat. ((sends her the kiss four times trying to
          get her attention, and then turns the head away
          and looks at the window where the child is
          looking))
7. EX:    she's staring (at) something.
```

The excerpt 9 illustrates that the child remains occupied with her 'activity' (turn 5). The mother responds to this kind of behaviour in various ways: by making a comment or by trying to get the child's attention (turn 6). In this situation the child seems to be staring at one point, not responding to mother's attempts to attract her attention. Sending kisses (turn 6) may serve to attract the child's attention. Finally, the mother shifts her gaze in order to observe what the child is looking at (turn 6). In the situations when the child does not respond to mother's attempts, there might be a fail in turn-taking because the child does not succeed

in responding to the other speaker's intention to engage her in the conversation.

d) The role of <u>gaze</u> in the mother-child communication is well known (Rutter & Durkin 1987). The gaze shift towards an object is almost always seen as a communicative means which the child uses to attract someone's attention to a desired object. However, there are situations for which we cannot claim that the child has communicative intention, but rather looks somewhere. Even in these situations, the mother shifts her gaze, focuses on the child's focus of attention and reacts in line with it (even the previous excerpt 9 shows this, in turn 6 the child stares at one point and the mother looks where). In some cases, this new focus of attention becomes new 'topic' of conversation. This is illustrated in the following excerpt 10.

Excerpt 10

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) and the experimenter (EX) sit at the table. Age of the child: 1;0,17

```
1. CH:    &m. ((points in the direction of table and the
          camera))
2. EX:    m?
3. CH:    ((starts watching how the experimenter eats))
4. MO:    (you) want that? ((points at the food))
5. EX:    (              ).
6. MO:    (you) want that what we eat, a?
7. CH:    ((still looks at the experimenters plate))
8. EX:    ((addresses the child)) (would) you try some?
          ((addresses the mother)) she can (.) eat all of
          this?
9. MO:    well (she) can (she) can. only that maybe (she)
          would like (it).
```

In the excerpt 10, the child looks at the experimenter's plate (turn 3) and the mother understand this as her desire to eat the kind of food the experimenter eats (turn 4). The next few turns between the mother and the experimenter are organized around the question whether the child wants and is allowed to eat this type of food (turns 8 and 9).

Although the 'turns' classified and described above are not intended as communicative, they become important in the development of communication. It is through described types of mother's comments and actions that the child gets the chance to realize whether she is doing something in a right way or not. An important observation is that most part of the activities during the mealtime is accompanied by speech whose purpose is usually to encourage the child to continue with her actions. The child's actions serve as a trigger for communication. Thus, we think that these actions serve as turns in the mother-child conversation. They help the mother and the child to construct the same meaning which helps the child to understand the world around her.

2. Intentional communication

In our data, intentional communication manifests as verbal, nonverbal, or more often represents a combination of both verbal and nonverbal means. In comparison to unintentional communication, the intentional communication between the mother and the child clearly represents the interactions between the two. In addition, it is always organized around the joint focus of attention (in the mealtime situations, this conversation usually concerns the food, the cutlery, but sometimes the mother or the child shifts the focus of attention to something else).

By **verbal** means we assume the actual words the child has uttered [like Serbian *ne* (no), Romanian *apă* (water)], the word approximations whose meaning the mother understands [like *a* for Romanian *arş* (hot as the Serbian *pec*)] and the prelinguistic

vocalizations (the use of a sound to indicate the child's states or intentions). **Nonverbal** communication includes different types of gestures, facial expressions, nonverbal vocal behaviours, prelinguistic vocalizations, and different actions with communicative value. These means are sometimes used isolated from each other, but more frequently the meaning is transferred by their combination.

2.1. Verbal means

Verbal means are obviously absent or quite rare at the earliest ages, given that this study started following the child at the age of 1;0,1.

a) <u>The word use</u> is the clearest and the most explicit intentional way to transfer the meaning. In the mother-child conversation, the verbal expressions count as turns: either the mother responds to the child's words and continues the conversation the child has initiated or the child responds verbally to the mother's utterances. In our data there is no actual word before the age of 1;3,9 (and even at this age only the word 'no' is observed). It is important to emphasize that the mother had reported about the use of few words at earlier ages, however we did not pick any of them in our recordings.

In the excerpt 11, the child uses the word 'water'.

Excerpt 11

Activity: mealtime (breakfast). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter is behind the camera. Age of the child: 1;3,27

```
1. MO:    water? ((looks at the child and gives her some
          water. The child first drinks and then reaches
          for the cup. The mother gives her some water))
2. CH:    ( ). ((sounds like no))
3. MO:    come on, a little, a little more.
4. CH:    water. ((points at the water in the cup, looks at
          the mother))
5. MO:    it's water, yes.
6. CH:    ((drinks some water and then takes food with her
          fingers and eats))
7. MO:    bra:vo:.
```

In the excerpt 11, in the turn 4, the child uses the word "*water*" in order to name it. The speech is accompanied by the index-finger pointing gesture. The mother responds to it by approving and confirming what the child has said (turn 5).

In the excerpt 12, the child uses the word 'no'.

Excerpt 12

Activity: mealtime (breakfast). The child (CH) sits in the high chair; the mother (MO) feeds her and brings her the food. The experimenter is behind the camera. Age of the child: 1;3,27

```
1. MO:    come on, a little, a little more ((tries to feed
          the child))
2. CH:    no::.
3. MO:    fi:ne. ((leaves the fork))
4. CH:    no:.
5. MO:    done, done, done. water, (you) want some water?
          ((goes in the kitchen and brings water))
```

In the excerpt 12, the child uses the word 'no' to indicate that she does not want to eat any more (turns 2 and 4). The mother accepts her refusal both times the child has uttered the word "*no*" (turns 3 and 5): she leaves the fork aside and agrees with the child.

b) <u>Word approximations</u> also represent verbal means. They usually contain one or two sounds (fragments) from the actual word they suppose to represent and this makes them difficult to relate to actual words. However, the mother does so without any problems and responds to the approximation as if the child has uttered an actual word, as in the excerpt 13.

Excerpt 13

Activity: mealtime (breakfast). The mother (MO) and the child (CH) make an omelet. While making an omelet, the mother holds the child in her arms, and stirs the eggs with one hand. Age of the child: 1;3,27

```
1. CH:    &e ((finger-points to the saucepan))
2. MO:    e(gg) this is the egg. (you) see how the egg
          fries? ((uses the fork to point to the saucepan))
          (we) are making an omelet.
```

In the excerpt 13, the child uses the sound 'o' which represents the approximation of the Romanian word 'ou' meaning 'egg' (turn 1). We have transcribed it as 'e' as an approximation for 'egg'. The mother repeats the approximation (turn 2) and then confirms what the child has said. It is extremely important for the child to receive the feedback from the mother, because it means that they have understood each other and that the child is referring to the appropriate entity.

In the excerpt 14, the child uses the sound 'a' as an approximation of another word.

Excerpt 14

Activity: mealtime (breakfast). The mother (MO) feeds the child (CH) and makes her blow on the food she is eating.

Age of the child: 1;3,27

```
 1. MO:    Ana blows (…) blows. ((brings food closer to the
           child))
 2. CH:    ((blows and stares at the window))
 3. MO:    like this cause it's hot if you don't blow. It's
           hot if you don't blow it. ((feeds the child))
 4. CH:    &a. ((she ate before saying)) (('a' could be the
           approximation of the word for 'hot'))
 5. MO:    it's hot if you don't blow it. ((addresses the
           experimenter)) hot ((she says the word 'hot' in
           Romanian)) (i)s hot-hot ((she says the word 'hot'
           in Serbian))
 6. CH:    &A:. ((looks at the mother, says and then looks
           at the experimenter))
 7. MO:    hot it burns. ((during the next few turns she
           blows and cuts food)) it burns if you don't blow.
           ((blows afterwards))
 8. CH:    &A:. ((looks at the mother))
 9. MO:    hot mhm. if you don't blow it's hot. ((gives food
           to the child)) blow, blow.
10. CH:    ((blows))
11. MO:    hot.
```

In this excerpt, the child uses the sound 'a' (turns 4, 6 and 8) which the mother interprets as an approximation for the word 'arş' (hot) in Romanian. The mother used the word in the previous turn (turn 3) and each time the child pronounces this sound the mother continues talking to the child about the food being hot.

The excerpt 15 illustrates the use of a non-existing word which becomes the verbal means of communication.

Excerpt 15

Activity: mealtime (lunch). The child (CH) has been refusing to eat and the mother (MO) tries to find the way to persuade her to eat. Age of the child: 1;0,17

```
1. MO:    pok. ((feeds the child))
2. CH:    ((eats)) &pə. ((looks at the mother))
3. EX:    ((laughs))
4. MO:    pok. here it is (we) make it again pok (.) pok
          (4.0) pok. ((sticks the food and then offers it
          to the child))
5. CH:    ((looks at what the mother does and then looks at
          the food laughing))
6. CH:    &po. ((as if she is trying to copy the sound the
          mother makes))
7. MO:    pok. am. ((feeds the child))
8. CH:    ((eats))
9. MO:    bravo.
```

In the excerpt 15, the mother produces the sound combination "*pok*" while sticking the food on the fork (turns 1, 4 and 7). This 'word' does not exist as an actual word neither in Serbian nor in Romanian. She uses it because it sounds interestingly and she wants to make the child eat. However, the child imitates this 'word' (turns 2 and 6) and this is a word approximation to which the mother responds and continues using it. This example also illustrates the verbal play both the mother and the child participate in.

c) Prelinguistic vocalizations could also be considered as verbal means of communication. They can be distinguished from the actual words or word approximations: they have no referent and phonetically they do not resemble Romanian or Serbian words. The child usually produces one sound: either a vowel-like or a nasal-like sound. Even though there is an intention to communicate, these vocalizations have no referent. They are just the way for the child to attract attention or express desire for an object. These vocalizations are usually accompanied by pointing or reaching gestures and means such as crying or whining. In our data, the mother responds to these vocalizations as if they show the communicative intention of the child, as in the excerpt 16.

Excerpt 16

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) and the experimenter (EX) sit at the table. Age of the child: 1;0,17

```
1. CH:    ((eats  olives  and  then  starts  looking  at  the
          camera))
2. CH:    [((points  and  waves  her  hand  in  the  table
          direction))]
3. MO:    [((looks  in  the  direction  of  the  child's  index
          finger))]
4. EX:    m?
5. CH:    m. ((points at the table))
6. MO:    (the) camera.  ((looks over the table))
7. CH:    ((points at the table))
8. MO:    (the) fork? ((gives the fork to the child)) here
          you are. ((after that she sticks the food on the
          fork and gives it to the child))
9. CH:    ((takes the fork and eats))
```

In the excerpt 16 (turn 5), the child produces the nasal-like sound (similar to "*m*") and points at the table because she wants the fork. The mother first names the camera thinking that the child refers to it (turn 6), but after the child continues pointing at the table (turn 7) she understands that the child wants the fork.

In the excerpt 17, the child produces the nasal-like sound two times.

Excerpt 17

Activity: mealtime (breakfast). The mother (MO) tries to feed the child (CH). The experimenter (EX) is behind the camera. Age of the child: 1;3,27

```
1. CH:    &m. ((turns the head away and looks towards the
          camera))
```

```
2. MO:    blow and ((offers food to the child))
3. CH:    &m:. ((points at the table, possibly to the
          camera))
4. MO:    mhm, Bojana is recording. ((looks at the camera))
          wave to her, cause she's recording.
5. CH:    ((waves))
6. EX:    [((laughs))]
7. MO:    [like this.] ((blows in the egg))
```

This excerpt illustrates the repetitive use of the nasal-like sound. The first use is followed by turning the head gesture, because the child does not want to eat any more (turn 1) and the other is followed by pointing gesture (turn 3) and the mother responds to it by naming the action the child is referring to (turn 4).

2.2. Nonverbal means

Before the child becomes able to use speech, the only way to intentionally communicate with the adults is to use different nonverbal means. These means are present in the mother-child interaction form the earliest ages and continue to be used at later ages as well, however, in the combination with verbal utterances. There are several types of nonverbal means that are treated as turns in the mother-child conversation. The following excerpts will illustrate that these means have the communicative value for the mother since she reacts to them immediately. The following transcripts serve to illustrate the use of wide range of nonverbal means:

a) different types of gestures (index-finger pointing, reaching, shaking or turning the head away);
b) facial expressions such as smiling and frowning;
c) nonverbal vocal behaviours, such as crying, whining, laughing and screaming;
d) different actions with communicative value (e.g. banging on the plate to attract mother's attention).

a) Child uses <u>different type of gestures</u> in order to convey a meaning. These gestures include index-finger pointing, reaching, shaking or turning the head away, finger-waving meaning 'no', applauding. The excerpt 18 illustrates the use of some of these gestures.

Excerpt 18

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter (EX) is behind the camera. Age of the child: 1;0,1

```
1. CH:     ((tries to sit straight in the chair in order to
           see what the mother put on the table))
2. MO:     m::, yummy, yummy, yummy, yummy, yummy. ((tries
           to feed the child))
3. CH:     ((first turns her head away and cries. Then
           points to the table. Frowns and points to the
           spoon in the mother's hand))
4. MO:     Ana. ((looks at the table before saying that))
5. EX:     (she) wants a spoon. ((laughs))
6. CH:     ((points to the table, cries))
7. MO:     ((rolls her eyes, looks for something on the
           table, takes the spoon and gives her to the
           child))
8. CH:     ((takes the spoon, tries to eat with it))
9. EX:     ah:, I say (she) wants a spoon.
10. CH:    ((eats with the spoon and spills))
11. EX:    ((laughs))
12. MO:    ((smiles))
```

The index-finger pointing and reaching gestures are used whenever the child desires an object and are always followed by the gaze shift (excerpt 18, turns 3 and 6). The mother responds to them by trying to understand what the child wants (turn 5) and providing the child with the desired object if possible (as in the excerpt 16, turn 8). However, there are situations where the child

continues pointing or crying which indicates that she is not satisfied with the object given to her. During the mealtime activities shaking or turning the head away usually indicates that the child does not want to eat anymore (the excerpt 18, turn 3). The mother either tries to convince her to continue with eating or stops feeding her, especially if the child turns the head repeatedly or cries and uses the word 'no'.

b) The facial expressions observed in our data are smiling and frowning. These are respectively interpreted by the mother as a positive or negative reaction to a certain stimuli or action. In the excerpt 18, the frowning indicates that the child is not getting what she wants (turn 3). On the other hand, whenever the child smiles, the mother interprets it as a positive reaction to an on-going action, as the excerpt 19 illustrates.

Excerpt 19

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) and the experimenter (EX) sit at the table. Age of the child: 1;0,17

```
1. MO:    p-p.  ((kissing  sound))  ((looks  at  the  child
          before making the sound))
2. CH:    ((smiles))
3. MO:    p-p ((kissing sound)) ((smiles))
4. CH:    ((smiles))
5. MO:    ((clicks  her  teeth,  moves  the  body  towards  the
          child and back))
6. CH:    ((laughs))
7. MO:    [((clicks  her  teeth,  moves  the  body  towards  the
          child and back))]
8. EX:    [yummy-yummy.]
9. CH:    ((eats  and  then  spits  the  food,  looks  at  the
          mother))
```

In this excerpt the child repeatedly smiles (turns 2 and 4). The mother interprets it as a positive reaction to a certain action and as a consequence she continues with the actions that the child reacts to (turns 3, 5 and 7).

c) The other type of nonverbal means includes <u>nonverbal vocal actions</u> such as crying, whining, screaming and laughing. The first three are interpreted by the mother as being a negative reaction (turns 3 and 6 in the excerpt 18), whereas laughing usually provokes some positive reaction by the mother (turn 6 in the excerpt 19).

d) The important way for the child to attract attention is to perform <u>different actions with communicative value</u>. These are usually actions that include the cutlery, the food or what ever is available to the child at the mealtime activity. These actions are always followed by the gaze shift towards the mother or other adults.

The excerpt 20 illustrates some of the actions that serve to attract the mother's attention.

Excerpt 20

Activity: mealtime (breakfast). The child (CH) sits in the high chair; the mother (MO) sits close to her. The experimenter is behind the camera. Age of the child: 1;3,27

```
1. CH:    &pu. ((waves with the fork))
2. MO:    pok, pok, it fell. ((puts the hands up and waves
          herself. Her voice is changed, as if she copies
          the child's sounds 'pu', because in Serbian the
          verb 'fell' starts with p))
3. CH:    ((lifts the plate as if she wants to roll it
          over))
4. MO:    no, no. ((looks at what the child does))
```

```
 5. CH:    ((looks in the direction of the camera or the
           experimenter, still holding the plate in the
           hand))
 6. MO:    no. ((shakes the head))
 7. CH:    ((shifts gaze towards the mother, still holding
           the plate))
 8. MO:    no, no, no. ((laughs))
 9. CH:    no.
10. MO:    (          ) no.
11. CH:    ((waves with her finger meaning no))
```

In the excerpt 20, the child first wants to roll the plate over (turn 3) and after the mother's refusal (turn 4), she continues holding the plate as if she expects to see both mother's and experimenter's reaction (turns 5 and 7). The mother interprets this behaviour as if the child wants to roll the plate over on purpose (in turns 4, 6 and 8 she repeats "*no*" to indicate to the child that she is not suppose to do this).

Developmental change in turn-taking

An important issue we are dealing with is the developmental change which happens over time. It particularly concerns the type of actions that are treated as turns. At earlier ages almost all actions elicit mother's reaction, whereas at later ages certain behaviours and "utterances" become more communicative in comparison to others. Developmental change concerns the following "milestones" in the communication (note that these are not separated, but rather influence one another):

a) The major developmental change happens when the child starts using her first words (or word approximations). In our data this is observable when we compare the transcripts at the age of 1;0,1 and 1;0,17 to those at the age of 1;3,9 and 1;3,27. At earlier ages there are no verbal means except for prelinguistic vocalizations: first words and word approximations emerge at the age of 1;3,9.

In terms of communication, the use of the word 'no' brings a large change, since the mother starts reacting to this word as having a stronger communicative value than other means of expressing rejection, disagreement or disapproval which were present earlier (head turning, head shaking, crying, whining). At earlier ages the mother responds to the means other than verbal: in the excerpts 21 and 22 the mother reacts to different kinds of the child's behaviours.

Excerpt 21

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The grandmother (GR) is also present. The experimenter (EX) is behind the camera. Age of the child: 1;0,1

```
1. CH:     ((tries to sit straight in the chair in order to
            see what the mother puts on the table))
2. MO:     m::, yummy, yummy, yummy, yummy, yummy. ((tries
            to feed the child))
3. CH:     ((first turns her head away and cries. Then
            points to the table. Frowns and points to the
            spoon in the mother's hand))
4. MO:     Ana. ((looks at the table before saying that))
5. EX:     (she) wants a spoon. ((laughs))
6. CH:     ((points to the table, cries))
7. MO:     ((rolls her eyes, looks for something on the
            table, takes the spoon and gives her to the
            child))
8. CH:     ((takes the spoon, tries to eat with it))
9. EX:     ah:, I say (she) wants a spoon.
10. CH:    ((eats with the spoon and spills))
11. EX:    ((laughs))
12. MO:    ((smiles))
```

Excerpt 22

Activity: mealtime (lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The grandmother (GR) is also present. The experimenter (EX) is behind the camera. Age of the child: 1;0,1

```
1.MO:     ((tries to feed the child))
2.CH:     ((turns her head away))
3.MO:     ((tries to feed the child))
4.CH:     &m. ((the sound of unpleasantness. She turns her
          head away and frowns. Then she starts crying and
          finger-pointing towards the mother))
5.MO:     ((frowns as if she is imitating the child and
          approaches to her))
6.CH:     ((cries and finger-points towards the mother))
7.MO:     ((stands up from the table and goes to the
          kitchen to bring something to the child))
```

In the excerpt 21, the mother stops trying to feed the child when the child starts turning the head and cries, but also follows the child's gaze and pointing at the table (turn 4). In the excerpt 22, the mother first imitates the child and then brings her something else to eat (turns 5 and 7). However, in this example the mother tries to feed the child even when she turns her head away (turn 3). At later ages, when the child starts producing the word 'no', the mother accepts it as 'a final word' as in the excerpt 23.

Excerpt 23

Activity: mealtime (breakfast). The child (CH) sits in the high chair; the mother (MO) tries to feed her. The experimenter (EX) is behind the camera. Age of the child: 1;3,27

```
1.CH:    &a. ((points in the direction of camera, yawns))
```

```
 2. MO:   to give Bojana ((the experimenter's name)) to
          eat?
 3. CH:   ((turns towards food, first she wants to take her
          with her hand and then puts the hand down))
 4. MO:   how does Bojana ((the experimenter's name)) eat?
 5. CH:   ((looks at the experimenter, does not stand still
          in her chair)) no. ((moves))
 6. MO:   come on, a little, a little more ((tries to feed
          the child))
 7. CH:   no::.
 8. MO:   fi:ne. ((leaves the fork))
 9. CH:   no:.
10. MO:   done, done, done. water, (you) want some water?
          ((goes in the kitchen and brings water))
11. […]
12. MO:   water? ((looks at the child and gives her some
          water))
13. CH:   ((first she drinks and then reaches for the
          water))
14. MO:   ((gives some water to the child))
15. CH:   (   ) ((sounds like 'no'))
16. MO:   come on, a little, a little more.
17. CH:   water. ((points at the water in the cup, looks at
          the mother))
18. MO:   it's water, yes.
```

In this excerpt the mother says "*fine*" leaving the fork (turn 8) and "*done*" (turn 10) to indicate that she understands the child's refusal. Even if she wants to continue feeding her she tries to verbally persuade her (as in turns 6 and 15, saying "*a little more*").

Another crucial change concerns the occurrence and development of a much wider set of means the child is able to use in order to convey a meaning. For instance, as observed in the first two recording sessions, if the child does not want to eat any more or she wants to express some negative meaning she usually turns her head away to the left or right side, simply whines or cries and rarely frowns. Previous excerpts illustrate this: turn 3 in the excerpt 21 and turn 2 in the excerpt 21. However, at the age of 15 and 16 months, she becomes able to use and combine greater number of means: she starts producing words (the word 'no'),

which is extremely important as we have shown. In addition, she adds other means: index-finger pointing *no* (moving/waving the finger in the left-right direction as in the excerpt 24, turn 9). At the age of 1;3,27 we can also observe the head shaking which did not exist at previous ages (as in turn 6 in the excerpt 25). Sometimes these means are not isolated from each other, but combined.

Excerpt 24

Activity: mealtime (late lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter is behind the camera. The father and the grandmother participate in preparing the lunch. Age of the child: 1;3,9

```
1. CH:    ((lifts  the  plate  as  if  she  wants  to  roll  it
          over))
2. MO:    no, no. ((looks at what the child does))
3. CH:    ((looks  in  the  direction  of  the  camera  or  the
          experimenter,  still  holding  the  plate  in  the
          hand))
4. MO:    no. ((shakes the head))
5. CH:    ((shift  gaze  towards  the  mother,  still  holding
          the plate in the hand))
6. MO:    no, no, no. ((laughs))
7. CH:    no.
8. MO:    (      ) no.
9. CH:    ((waves with her finger meaning no))
10. MO:   no. no, no (.) Ana. ((waves  with  her  finger
          meaning no)) no, no. ((waves  with  her  finger
          meaning no))
```

Excerpt 25

Activity: mealtime (late lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter (EX) is

behind the camera. The father and the grandmother participate in preparing the lunch. Age of the child: 1;3,9

```
1. CH:     ((takes the fork and eats alone))
2. MO:     bra:vo:.
3. EX:     ((laughs quietly))
4. CH:     ((frowns and takes the food out from the mouth))
5. MO:     well you didn't blow, (you) didn't blow.
6. CH:     ((shakes her head))
7. MO:     ((shakes her head))
```

In line with the changes in the child's conversational skills, the mother's language changes as well. The child gives her the opportunity to react in a more diverse way. At earlier ages there is a small diversity of "utterances" by which the mother addresses the child during the mealtime. These are usually responses like: 'bravo'. With age the mother asks questions, uses declarative sentences by which she explains the situation, describes the food, etc. In some future research it would be quite interesting to take a look into speech acts both the child and the mother use at different ages. The mother and the child both participate in the verbal play, which is an important evidence for the level of development of turn-taking skills.

The overall pattern of the mother-child turn-taking: General discussion

The investigation of the child's early turn-taking skills reveals that in the mother-child communication there is a pattern similar to adult's conversation: the child's actions and behaviours serve as a trigger for the mother's comments, questions, directives, etc. Through this pattern the child gets the possibility to learn how the conversation system works. This interpretation is in line with some authors' claim that mother-child interactions could be considered as protoconversations (Bateson, 1975, based on Ninio & Snow, 1996).

We have shown that both unintentional and intentional behaviours and actions could constitute a turn in the conversation. From the mother's perspective, it is not important whether the child initiates the contact intentionally, with the motivation to talk. The most important thing is that the mother keeps the conversation going on through all of her joint activities and interaction with the child, regardless of the child's intentions. Even at early ages the child is treated as an equal partner in the conversation, and that could make it easier for the child to acquire conversational patterns.

There is the constant interpretation of meaning of children's practical activities that the mother provides. The mother shows highly efficient understanding of the child's actions and tries to act in line with them. For example, when the child reaches for an object which is out of his reach, the adult shows that he/she has understood the child's intention by giving the object to the child. Later, this activity is transformed into the pointing gesture as a symbolic means which the mother also interprets.

With regard to the developmental changes, it is important to stress out the developmental changes we have observed: the change caused by the use of the words and the emergence of the wider set of means the child uses to communicate. It should be added that, as the child gets older, the mother raises the criterion for what counts as a contribution from the child and transferres more responsibility for continuing the dialogue to the child.

As we have tried to highlight through the excerpts, the unintentional turns are not isolated from the intentional conversation: the conversation is constituted of both intentional and unintentional means. However, when something communicatively unintentional happens (when the child coughs or swallows the food), the communication does not break down, but rather integrates these new turns as relevant for the conversation.

We would also like to point out that not all of the child's behaviours receive the communicative value. The child often

plays, eats, looks around etc., and the mother does not respond to it. This observation makes the interaction situations more valuable for the conversation development, since the child cannot break into the conversation patterns if not involved in the conversation.

The following excerpt serves to illustrate longer part of the mother-child conversation, where we show how different intentional (both verbal and nonverbal means) and unintentional means are combined. This excerpt shows that even at this early age (nearly 16 months) the interaction between the mother and the child resembles the full adult-like conversation. On the one hand, the child activities or communicatively intentional means initiate the mother's responses. On the other hand, at this age the child is able to respond to different kinds of input the mother provides, which illustrates her ability to participate in the interaction and conversation. Note that the child's turns are made at the appropriate time. There are no gaps or overlaps in the conversation with the mother (and other adults) or at least we can say that they are minimal.

Since the turn-taking at intentional levels joins together verbal and nonverbal means the following excerpt focuses on the combination of the two. The idea is to take a look into how turn-taking takes place at the earliest ages. Even at this very early age around the age of one the context of the language use provides the child with the opportunity to learn the conversational patterns from early on and the child successfully uses this opportunity and participates in the conversation.

Excerpt 26

Activity: mealtime (late lunch). The child (CH) sits in the high chair; the mother (MO) feeds her. The experimenter (EX) is behind the camera. The father and the grandmother participate in preparing the lunch, sit at the table. Age of the child: 1;3,9

```
1. CH:    &pu. ((waves with the fork))
          word approximation, action
2. MO:    pok, pok, it fell⁷. ((puts the hands up and waves
          herself. Her voice is changed, as if she copies
          Ana's sounds 'pu'))
          word approximation, action, paralinguistic means
3. CH:    ((lifts the plate as if she wants to roll it
          over))
          action
4. MO:    no, no. ((looks at what the child does))
          verbal response
5. CH:    ((looks in the direction of the camera or the
          experimenter, still holding the plate in the
          hand))
          gaze shift, action continuation
6. MO:    no. ((shakes the head))
          verbal response, gesture
7. CH:    ((shift her gaze towards the mother, still
          holding the plate in the hand))
          gaze shift, action continuation
8. MO:    no, no, no. ((laughs))
          verbal response, laughing
9. CH:    no.
          verbal response
10. MO:   xx no.
          verbal response
11. CH:   ((waves with her finger meaning no))
          gesture
12. MO:   no. no, no (.) Ana. ((waves with her finger
          meaning no)) no, no. ((waves with her finger
          meaning no))
          verbal response, gesture
13. CH:   &a.
          prelinguistic vocalization
14. MO:   no, no. ((waves with her finger meaning no))
          verbal response, gesture
15. CH:   &a.
          prelinguistic vocalization
16. MO:   what does it mean &a? ((moves her body closer to
          the child))
          verbal response
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⁷ In Serbian the verb 'fell' starts with p, this is why the mother said 'fell'.

```
17. CH:   ((laughs))
          laughs
18. MO:   ((laughs))
          laughs
19. CH:   ((starts messing around with the food in the
          plate))
          communicatively unintentional action
20. MO:   xxx. ((puts the food on the child's fork and
          tries to feed the child))
          verbal response (?), action
21. CH:   no. ((gently shakes her head, messing around with
          the food in the plate))
22. MO:   m? ((offers the food to the child))
          verbal response, action
23. CH:   no: (...) no. ((spills the food))
          verbal response, action
24. MO:   hey, Ana, if you don't want to eat don't (.) fool
          around. ((wipes what the child has spilled))
          finished.
          verbal response, action
25. CH:   ((eats the crumbles and then applauds, goes back
          in the chair, and then looks in the direction of
          the experimenter)) water.
          communicatively unintentional action, gesture,
          gaze shift, verbal response
26. EX:   ((applauds)) water? ((wrong pronunciation of the
          Romanian word for water)) (you) wants some water,
          a?
          gesture, verbal response
27. CH:   ((looks to the table, it is not clear where
          exactly))
          gaze shift
28. EX:   there's some water on the table mommy will give
          you no(w).
          verbal response
29. MO:   Ana, water. ((approaches the table and gives
          water to the child))
          verbal means, action
30. CH:   ((drinks)) water. ((looks at the mother))
          communicatively unintentional action, word, gaze
          shift
31. MO:   water.
          verbal response
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32. CH: &pa. *((gesture of saying bye-bye[8], then she tries to take off the bib))*
verbal response, gesture, action
33. EX: no: well she asserts that I drink water because I took the glass.
verbal response
34. MO: yes, yes, yes. *((takes the bib off from the child))*
verbal response, action
35. CH: &m. *((reaches to the table, with three fingers lifted up, as if she wants to take something))*
prelinguistic vocalization, gesture
36. MO: Ana (.) show Bojana *((puts the bracelet in front of the child))*
verbal response, action
37. CH: *((looks at the bracelet, then whines and finger points to the table))* no. *((then pushes the bracelet away))* no. *((looks at the bracelet and then tries to look at the table))*
gaze shift, whining, gesture, verbal response
38. EX: what's wrong?
verbal response
39. CH: &e: (.) &e, &e, &e. *((looks and points at the table))*
prelinguistic vocalization, gaze shift, gesture
40. MO: *((takes a toy form the table and puts it in front of the child))*
action
41. CH: &e, &e, &e, &e.
prelinguistic vocalization
42. MO: this? *((bring the cup with water in it))*
verbal response, action
43. CH: *((drinks))*
action
44. EX: aha. *((sound of imitating the child satisfied for drinking water))*
verbal response

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[8] In Romanian the words 'water' and 'bye-bye' sound similarly.

Concluding remarks

In this chapter we have provided the classification of the turns in the mother-child conversation. Given that the mother responded to different types of the child's behaviours, we argue that both unintentional and intentional behaviours and actions serve as turns in the conversation. In continuity with the social-pragmatic approach, it seems that in the adult-child dyad the child is treated as an equal conversational partner. We further assume that this facilitates the process of language development and enables the child to acquire the conversational patterns.

Nonetheless, few limitations of this study should be acknowledged. We would like to point out that this is a case study, which limits us in several ways. First of all, certain generalizations about the turn-taking development are impossible, or at least unjustified. In order to fully investigate the emergence and development of turn-taking skills in infants, future studies should include more participants. We assume that the basic conclusion we have reached – that almost all child's behaviours could count as turns from the mother's point of view – would not change. However, it is important to verify the findings in this domain by investigating larger number of the mother-child interactions. In addition, it would be fruitful to extend the age range in the analysis. Since the conversation starts right after the birth, earlier ages of development should be included, as well as the development of these skills at later ages. Another point should be made: the scope of the study disabled us in investigating the content of the turns, i.e. the speech acts (questions, declaratives, imperatives, requests, offers, etc.) that both the mother and the child use in the conversation. In the future, research could include these elements as well, because they can provide the insight to how the mother's language changes with regard to the child's language development.

Additionally, this study is specific in the sense that it investigated the bilingual child. Even though it was not relevant

for the study to deal with the notion of bilingualism, it would be interesting to take a look into how the situation of acquiring two languages affects the development of turn-taking skills and to explore the possible crosscultural and crosslinguistic variations. We especially have in mind the fact that certain failures in the turn-taking could be caused because the child does not understand an utterance in one of the languages and thus could not supply the next turn.

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Chapter 7

Reflecting on different views of social interaction: Explanatory and analytic perspectives[1]

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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 chapter, we intend to reflect on two particular perspectives being combined in research studies presented and discussed in previous chapters. Within the first perspective, social interaction is studied for instrumental reasons. It is not an object of study *per se*, it is rather studied, for example, in order to explain something that is outside of interaction (e.g. cognitive ability, self related characteristics, etc.). Consequently, this perspective could be labeled as "exploratory perspective". Within the second perspective, social interaction is the main object of research interest and it is analyzed in details in order 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 (2010) organized his work using a similar distinction between two perspectives – the first one was labeled as "socio-cultural studies" and the second one as "linguistic ethnography studies".

In this chapter, we first analyze in more details the explanatory and analytic perspectives, and then we point out how these two perspectives have been employed into the research studies presented in this book. In this way, we can better understand these two perspectives and how they might be combined enabling researchers not only to explore dynamics of social interaction and different forms and trajectories, but also to understand how human beings become different based on interactions with others.

Two perspectives in studying social interaction

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

Explanatory perspective: investigating social interaction in order to explore 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 a personal characteristics (e.g. cognitive abilities, self-esteem, etc), but also an 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 examples of the explanatory perspective on social interaction. Although these theories are different with respect to the basic mechanisms of development (individual construction vs. co-construction), they are alike in their interest in 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 interactions with others. These studies may vary in different factors such as the participants in interaction (peer interaction, parents – child, teacher – student interaction, etc.), the interaction site (school, home, etc.), or the object of interaction (items indicating deeper cognitive structures such as concrete-operational thinking, academic items such as understanding of the concept of floating in Physics, certain 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 focused mainly on those aspects that can contribute to the explanation of development of competencies.

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 kinds of social interaction while

participants from the control group have no such opportunities. Finally, in the post-test both groups are assessed again in order to evaluate the impact of social interaction on learning and development of the concept and the ability as the object of inquiry. Some researchers have been more interested in the quantitative effects of social interaction, while others have done additional qualitative analyses to find out how learning and development could emerge out of interactions with other(s).

In general, studies employing the explanatory perspective have provided a wide range of knowledge about what kind of interaction supports 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 interaction is shared, that socio-cognitive conflicts need to be managed in a constructive way, that argumentative thinking and discussion need to be involved. 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 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. Ever 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. Piaget 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 for the process of socialization, both moral and cognitive, from early childhood to late adolescence, has also been recognized. 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 et al., 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, 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 also been strongly supported by authors employing the theory of Vygotskij (1934/1962). Vygotskij has highlighted the relevance of language as semiotic means for cognition and for 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 perspectives, especially those engaged into more detailed qualitative analyses of interactions, brought understanding that social interaction is not just an "external" variable affecting development and learning, but an integrative part of the 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: investigating social interaction in order to understand its dynamics 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. These traditions of research assume that the study of conversation and interaction between human beings is the main resource for the understanding of the way how different activities (cognitive, emotional, linguistic, social, etc.) are linked 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 with the explanatory perspective (Rogoff, 1990; Schubauer-Leoni et al., 1992; Wertsch et al., 1995; Chaiklin, 2002; Perret-Clermont et al., 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 views on social interaction, learning and development compared to the mainstream psychology traditions that treats personal characteristics as they exist within the person and they are relatively independent from relationships and contexts. From the analytical perspective, it is meaningful to study how "personal" and "social" aspects of social interactions 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 interactions 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 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 the interaction could unfold in.

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

The analytical perspective puts emphasis 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). Within 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 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 studies, 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 interactions between children and adults in real life situations.

These two perspectives could be described metaphorically as "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 understand complex dynamics of interaction between partners and their relations to and dependencies on 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 structures 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.

This book is focused on the analysis of social interaction from these two perspectives: some chapters are situated within the first one, exploring how children can develop new competencies or understandings through the interaction with others – peers or adults, or looking at the interaction as a space within which something else is going on; other chapters take the second perspective, trying to describe the interaction itself and its complexity, focusing on different trajectories that it can take (how

the convergence of meanings and ideas occurs within interaction), or looking at the development of communicative competencies.

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 do they rely on, which resources and tools do they use? Or should we try to understand how to foster effective interactions because it could 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 view, not keeping them separately but trying to think how complementary the two approaches are. In fact, different elements have been highlighted in all chapters presented in this book. The phenomena presented by the authors are relevant within a variety of dimensions that could be considered under the lens of both approaches. In our opinion, the focus on social interaction should be then re-analyzed having in mind this integrative perspective.

Relational and social dimensions of interactions

Within studies presented in this book several relevant relational and social dimensions have been addressed. An interesting element concerning social interaction among people is related to the dimension of cooperation. The study on asymmetrical peer interaction, presented in chapter 2, has shown that cooperation is not a frequent phenomenon within unsuccessful dyads. On the other hand, cooperation among partners was one of the most salient characteristics of successful dyads. As cooperative relation implies the social parity among

partners, the focus of scholars should also be directed toward some other dimensions, such as domination or and/or social positioning of some partner(s) discussed within chapters 2, 3 and 4. If we focus on development of new competencies through peer interaction, we can say that the domination of one partner was frequent in the dialogues which did not lead to the new competence development. The obtained results revealed that the dominant attitude of a more competent student prevents the appearance of productive characteristics of the dialogue, such as cooperation, shared understanding or shared socio-cognitive conflict. In some situations it could produce a submissive and uncritical behaviour of partners who passively agreed, did not question partner's opinion and even withdrew from the interaction. In other situations, when students with lower competencies had shown an initiative and had proposed correct solutions, a dominant attitude of their partners discouraged that initiative and made them agree with a wrong answer.

A closely related dimension has been found and discussed in the analysis of interactive reading activities in chapter 3. It concerns the situations in which one partner takes a position of the one who knows better or the more competent one, in order to persuade a peer to accept his/her standpoint. In the same chapter it has also been found that in some cases one child tries to position the partner as the one who does not know and whose proposals should not be followed. Thus, although it has been hypothesized by many authors that peer interactions are characterized by the equality among partners in terms of social power, it has been observed that there are cases in which children frame the interaction as an asymmetric with respect to the social power.

Similarly, in the study of group interaction in a decision making task (presented in chapter 4) it has been obtained that, if the so-called "risky child" (the child preferring a riskier option) is not sufficiently involved in the interaction, occupying in that way less space in the dialogue, losing the opportunity to advocate for

his/her propositions, it leads to a situation in which his/her proposition is not taken as a possible group decision. On the other hand, it has been observed that aggressiveness and dominant role in conversation, manifested as intrusive talk about who from the group "has the right" to talk and when, as well as a strong affirmation of ones attitude, leads to the acceptance of that point of view, although it was riskier that the others' proposals.

Concluding this part, we would like to emphasize that all mentioned findings remind us that the social relation among participants in an interaction is a result of negotiation process that is taking place simultaneously with the negotiation around the task solution within the interaction. Thus, no matter if we are interested in the results of interacting process (in terms of the adequacy of the final solution or the new competence development), or if we are focused on the interaction process itself, we should be aware of this interweaving of partners' negotiations concerning their social relations and negotiation of meanings, ideas, and possible solutions. It is obvious that the result of one of these negotiation processes affects the way in which the other takes place. For that reason, it would be valuable for our understanding of interaction processes to rethink about it, keeping in mind the integrative approach we have proposed here.

Relational and cognitive dimensions of interaction

Some of the data presented in this book suggest the joint presence of relational and cognitive dimensions of interaction that at the same time contribute to the pertinence of an integrative analysis of social processes.

In the course of several interactions, the use of argumentation, mostly as a tool in the process of negotiation about a final solution, has been observed. As has been reported in chapter 2, a series of argumentative exchanges was present in the case of dialogues in some of the successful dyads. In the same way

and also with the purpose to find the best joint task solution, children produced arguments when they were asked to discuss about written text. It was reported in chapter 3 in which these situations were analyzed with the aim to consider the use of argumentation as one of possible mechanisms that can lead to the convergence of children's initially divergent opinions. In other words, the child who has been using consistent argumentation, referring to the text or connecting information given in the text to previous knowledge, could persuade the partner to accept his/her point of view. In addition to this cognitive effect of argumentation use, it was emphasized within the same study that argumentation can have social effects as well. Namely, we could see that the use of argumentation by one partner could motivate the other child to change his/her way of positioning within joint work space. In continuation with what has already been discussed, this could be taken as one more finding supporting the idea of how important is to consider both social and cognitive aspects of the interaction process, but also of interaction effects.

Talking further about the use of argumentation, we would like to remind on the way the argumentation has been used by children in the study which addressed the important points concerning risky decision making (chapter 4). A kind of argument with great persuasive power was the one referring to the opinion of an important adult. As it has already been discussed in chapter 4, parents' opinions have a fundamental role in children's learning and development. For that reason we have to include in our analysis the broader context in which the interaction takes place. By saying this, we do not refer exclusively to family, as one of the primary groups within which the socialization process takes place, but also to all other relevant settings of participants' lives, which influence the opportunities to create a space for a joint work, affecting at the same time the content of participants' talks.

Apart from argumentation that can be used as a tool for opening a space for participants' exchange of ideas, other data presented in this book address some other tools with a similar

aim. In particular, in chapter 5 we could see how raising questions can be an efficient tool in creating a space for the other to check his/her own understanding or to build a new understanding. Analyzing the practices of a teacher labeled as modern, it has been described how questions were used by this type of teacher in order to initiate students' personal meanings and literary works interpretation development. Apart from creating a space for students to express their own interpretations of literary works, one more aspect of teachers' questions has been discussed: their function in developing students' argumentation concerning expressed opinions. On the other hand, some other verbal tools have been found in the exchanges among students and so-called "traditional" teachers. Questions were not raised with the aim to seek for students' opinions, but on contrary they were used to check pupils' knowledge. By doing so, the teacher assumes the role of "primary knower" which prevents students in building their own interpretations and developing argumentative thinking.

From the point of view of the role of social interaction in the development of individuals' competencies, some dimensions influencing later performances have been highlighted in the analyses presented in chapters 2 and 3. In particular, in chapter 2 it has been presented how the experience with a more competent peer who was confused or even regressed in comparison to previously measured competence level, can be a cause of regression in the partner's performance as well. In addition to this, in chapter 3 we could see that the interaction with a peer can lead the child to build and to apply a new strategy in dealing with written texts, which leads the child to the proper task solution. This is very important as it clearly shows the role of social interaction, not only in coming to the proper solution in a particular situation, but also in developing and practicing new strategies in order to deal with written texts.

Relational and communicative dimensions of interaction

The investigation of the child's early turn-taking skills, presented in chapter 6, addressed an important topic of the role of social interaction in the communication development. The pattern of the mother-child communication seems to be similar to the adults' conversation, which means that the child's actions serve as a trigger for the mother's responses, regardless on the child's initial communicative intention or its absence. Through this pattern the child gets the possibility to learn how the conversation among participants looks like and how he/she can participate in communicative exchanges in a proper and efficient way.

The topic of communication development through social interaction has an important role in our discussion about the place of an integrative approach in considering the social interaction research field. It reminds us once again of the fact that social interaction, as inevitable part of our everyday lives, takes part in the development of different competencies (communicative, cognitive, social) and knowledge, but it is also a means through which we express our ideas, emotions and intentions, organize our activities, and get feedbacks from other people.

Conclusion and further development

We believe that the results of different researches proposed in this book might be considered of scientific interest, as well as of considerable practical value. The goal of this enterprise has been to contribute to the understanding of the numerous processes that are involved in social interaction. The attention to the question of context in order to better understand the conditions in which social interactions can occur is crucial: the analyses of such a complex system are not easy. For this reason, this book aims at opening new views on the qualitative modalities that can be

implied in the investigation of interactive phenomena among people. Our view is also in the direction of sustaining interdisciplinary studies able to better analyze contexts and psycho-social conditions in which natural and experimental situations are done. In our opinion, it is important to improve an articulation of different methodologies in the study of interactions as situated activities: we think that it is necessary to observe in detail participants' discursive practices and to link them to the contextual aspects of the setting. In particular, the analysis of educational settings in institutional frames can contribute to take into account the adults' and children's representations of joint activities and goal-directed tasks. Implications at theoretical and methodological levels could be useful for educational psychologists, teacher trainers and other practitioners in the field of education.

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