Chapter 5 A Dialogical Framework for Researching Peer Talk

A pre-print draft of: Wegerif, R. and Mercer, N. (1997) A Dialogical Framework for Investigating Talk. In Wegerif, R. and Scrimshaw, P. (Eds) *Computers and Talk in the Primary Classroom*, pp 49-65. Clevedon: Multilingual Matters. ISBN: 1853593915

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Section One began with a question about the relevance of neo-Vygotskian theory to the study of peer talk. In this, the final chapter of Section One, Rupert Wegerif and Neil Mercer return to that theme and propose a framework for the study of peer talk which, they claim, goes beyond some of the limitations of neo-Vygotskian theory. This framework is called 'dialogical' because it is based on a characterisation of types of interactive dialogue. The schema of three types of talk introduced by Eunice Fisher in Chapter Three is taken up and elaborated here, in order to argue that these three types of talk reflect basic possibilities in the ways in which speakers of similar social and educational status can relate to each other in dialogue. Finally Wegerif and Mercer offer an analysis of the types of talk, using four distinct levels of description running from the interpretation of the fundamental orientation of the talk through to the level of surface language features such as key words. In these ways, the chapter consolidates the theoretical content of Section One and links it with Section Two, where analyses of different types of talk are used to explain observational classroom data.

Introduction

In Chapter Two questions were raised about the relevance of neo-Vygotskian theory for the study of peer learning. Concepts such as the 'Zone of Proximal Development' (ZPD) and 'scaffolding' focus on the learning and development of individuals – it is difficult to see how they can usefully be applied to the study of pairs and groups of children working at computers. A new theoretical framework appears to be needed. In Chapter Three Eunice Fisher discussed some progress which had been made in this direction by research which focused on the quality of children's talk while engaged in joint intellectual activity. She described a schema of three types of talk, each of which had, as she put it, 'significance for education'. This framework of types of talk can be used to analyse how language is used as a means for thinking together by children. But first we need to understand exactly what is meant by a 'type of talk' and consider more carefully what each of the proposed types of talk represents. This will be the main work of this chapter. We start by explaining where our theoretical framework comes from.

Going beyond Vygotsky

Whereas cognitive psychology has tended to view thought as an abstract reality independent of social contexts, the paradigm of sociocultural research which has emerged in recent years

treats the process of thinking as one intimately related to processes of communication, and embedded in human social and cultural activity (Wertsch, 1985a; 1985b). Vygotsky – whose pioneering work inspired the development of sociocultural research – argued that 'cognitive development' results from a process of linguistic socialisation, or what he called 'internalisation' is an important source for the contemporary sociocultural paradigm in education. As he put it:

> We might formulate the general genetic law of cultural development as follows: any function in the child's cultural development appears on the stage twice, on two planes, first on the social plane and then on the psychological, first among people as an intermental category and then within the child as an intramental category. (Vygotsky 1991, p 40)

Descriptions of the emergence of socio-cultural research commonly place great emphasis on a theoretical confrontation between Vygotsky and Piaget (see Mercer, 1994 for an elaboration of this). However, Vygotsky's overall theory of development was not as different from that of Piaget as some commentators, notably Bruner (1962) have implied. While Vygotsky claimed that thought, at least 'the higher mental functions' such as logic, originated in social practices he certainly did not claim that thought was fully embedded in language use and in social interaction. Despite some ambivalence in his writing, it seems that, for him, the process of thinking remained essentially something that only individuals do. This is implied in his concept of 'internalisation'. While he described language as a 'tool', or 'mediating means', he appears to have meant by this that it had a function for facilitating cognitive development of individual children in the direction of a purely logical thought (which he associated with 'scientific concepts'). As Wertsch (1996) points out, Vygotsky shared with Piaget an 'Enlightenment rationalism' which included the assumption that abstract rationality is the goal of development. This is apparent in his model of development in which thought passes from a stage where it is embedded in concrete contexts, towards what he called true conceptual thought (Vygotsky 1986, Chapter 6; van der Veer and Valsinger 1991, p 263). He does not appear to have been concerned with the developing use of language as a culturally-elaborated tool used by people for thinking together - i.e.., as a means for joint intellectual activity. That is, his work was not directly concerned with the ways language can be used as a *social mode of thinking* (Mercer, 1995).

Vygotsky's commitment to an abstract view of rationality reflected the dominant scientific discourse of his time. Our concern here is not to criticise Vygotsky, but to point out the source of a certain ambivalence in contemporary sociocultural theory, especially as this has been applied to education (e.g. Newman, Griffin and Cole, 1989; Wood, 1992). On the one hand, it is argued that cognition is embedded in language use, and this is used to justify close attention to social, collaborative processes of learning. On the other hand, language use is still treated as little more than a 'mediating means' for supporting individual cognitive development towards abstract rationality. One reason for this limited appreciation of the intellectual significance of language use is that the sociocultural research community is dominated by the

influence of developmental psychology; although references to anthropological and linguistic studies are often made in such research, its focus is still essentially individualistic. But ways of thinking are embedded in ways of using language, and the development of culturally-based 'educated' ways of thinking and communicating thought is an end in itself; language use should be researched in such terms, and not simply as factor in individual learning or development. We believe, then, that the time has come to move sociocultural research beyond the limitations of Vygotsky's horizons, and allow the social perspectives of anthropology, linguistics, and certain kinds of educational research to have a more profound influence on theory and empirical analysis. Education could then be studied critically as a process for enabling children to use language more effectively as a means for carrying out joint, social intellectual activity.

The Dialogical Turn

The model of reason which Vygotsky shared with Piaget was essentially a 'monological' model. By this we mean that the idea behind it was of a self-contained logical system, a system in which each element is perfectly defined by the other elements so that this is no ambiguity or conflicting interpretations. Vygotsky sums up this 'monological' vision in *Thought and Language* as 'the equivalence of concepts' whereby pure concepts can be perfectly substituted one for another in the same way that numbers can be defined in different but equivalent ways in mathematics (Vygotsky, 1986, p 200). This mathematical model of reason was essentially the same as that which Piaget embodied in the 'formal operations' stage of his theory of development.

Curiously, a basis for our critique of monological views of reasoning (and of the creation of meaning in general) was laid by a Soviet contemporary of Vygotsky whom he never met, Bakhtin (who some claim also wrote under the name Volosinov). The term ‘dialogical’, taken from Bakhtin/Volosinov, has become widely used (Sampson, 1993; Shotter, 1993 ; Wertsch 1991; Hermans, Kempen, and van Loon 1992; Wold, 1992; Maybin, 1994) perhaps because of the contemporary value of its central insight that understanding always requires more than one voice or perspective. As Volosinov/Bakhtin puts it:

> To understand another person's utterance means to orient oneself with respect to it, to find the proper place for it in the corresponding context. For each word of the utterance that we are in process of understanding, we, as it were, lay down a set of our own answering words. The greater their number and weight, the deeper and more substantial our understanding will be. (Volosinov 1986, p 102)

‘Meaning’ Volosinov/Bakhtin continues ‘is like an electric spark that occurs only when two different terminals are hooked together’ (*ibid.*). It follows from this that utterances have no meaning in themselves but only have meaning in the context of a dialogue which includes and interanimates different voices and different perspectives.

Some of the implications of this turn away from monological accounts and towards the dialogical have been explored in the new ‘discursive psychology’ which emphasises the dynamic construction of meaning and self-identity within dialogue (Potter and Wetherell 1994; Edwards 1992; Harre and Gillet 1994; Shotter 1993; Gergen 1994; Sampson 1993) Sampson, for example, argues against what he calls ‘the container model’ of the self, a model strongly implied by Vygotsky's concept of 'internalisation', in favour of a view of the self as inherently multiple:

> Even when we pause to think and reflect, we do not do so in one voice only but always in a dialogue containing many different voices. When we interact with another person, although one genre may be primary, other genres lie at the ready to help us reformulate, reframe and newly understand our experiences. (1993, p 125)

This kind of dialogue-based formulation of the process of thinking requires the development of a new kind of theoretical framework to understand cognition and development – a theoretical framework predicated not on the principle of self-identity, as assumed in neo-Vygotskian theory, but on the principle of intersubjectivity. By intersubjectivity we mean what Rommetveit calls the 'attunement to the attunement of the other', which is at the heart of dialogue (Rommetveit 1992, p20 quoting Barwise and Perry, 1983). This 'dialogical' perspective is a deepening of the sociocultural paradigm which takes the emphasis on social context a little further through putting emphasis on the dynamic and interactive nature of the social construction of meaning within dialogues.

'Cognitive development' can be loosely translated into ordinary language as 'the process by which children learn to reason'. We have seen that Vygotsky assumed, as did Piaget, that the ultimate goal of 'cognitive development' was abstract rationality, based on the model of logic or mathematics. But when we describe someone as a 'logical', 'rational' or a 'reasonable' person we do not normally mean that they are good at abstract logic or at mathematics but that they can make appropriate, clear and useful contributions to discussions, in ways that enable solutions to shared problems to be achieved. In other words when we talk about our 'reasoning' in an everyday, situated sense, we are describing how we engage in a social process of thinking - to use Rommetveit's favourite phrase again, how we 'attune ourselves to the attunement of others'. This is a point which the social philosopher Habermas makes strongly. He argues against a monological view of reason, based on a model of an isolated individual making sense of an objective world:

> By contrast, as soon as we conceive of knowledge as communicatively mediated, rationality is assessed in terms of the capacity of responsible partners in interaction to orient themselves in relation to validity claims geared to intersubjective recognition (1991a p314).
>
> This communicative rationality recalls older ideas of logos, inasmuch as it brings along with it connotations of a non-coercively unifying, consensus-building force of a discourse in which the participants overcome their at first subjectively biased views in favour of a rationally motivated agreement (1991a p315).

On the basis of a switch from what he calls 'the paradigm of consciousness' to 'the paradigm of mutual understanding' or 'intersubjectivity', Habermas (1991a) argues for a model of rationality that is defined not through logical rules but through social ground-rules or guidelines based on an appeal to an 'ideal speech situation' in which the best arguments win out over coercion or self-interest. While Habermas's model of reason has been criticised as too abstract and idealised, we nonetheless find his ideas a useful resource for exploring the relationship between cognition and language use. He offers the valuable insight that different types of communicative relationship embody different ways of thinking together. This is where the 'types of talk' analysis put forward by Fisher in Chapter Three becomes relevant. These types of talk represent ways in which pupils or students orient themselves towards each other in a dialogue. Each type of talk also represents a way in which participants in a dialogue can engage in the joint construction of knowledge. And the type of talk which we have called 'exploratory' appears to embody Habermas's concept of 'communicative rationality'.

Three 'social modes of thinking'

The three educationally significant types of talk characterised by the SLANT (Spoken Language and New Technology) project team (Fisher, 1993; Mercer 1994; 1995) emerged from an analysis of data collected in several schools, with children from a range of age-groups working at a variety of computer-based educational tasks. Mercer (1995; Wegerif and Mercer, 1996) has since elaborated the definitions of the three types of talk, and discussed their nature as 'social modes of thinking':

- **Disputational talk**, which is characterised by disagreement and individualised decision making. There are few attempts to pool resources, or to offer constructive criticism of suggestions. Disputational talk also has some characteristic discourse features - short exchanges consisting of assertions and challenges or counter assertions.

- **Cumulative talk**, in which speakers build positively but uncritically on what the other has said. Partners use talk to construct a 'common knowledge' by accumulation. Cumulative discourse is characterised by repetitions, confirmations and elaborations.

- **Exploratory talk**, in which partners engage critically but constructively with each other's ideas. Statements and suggestions are offered for joint consideration. These may be challenged and counter-challenged, but challenges are justified and alternative hypotheses are offered (cf. Barnes and Todd, 1978). Compared with the other two types, in exploratory talk *knowledge is made more publicly accountable* and *reasoning is more visible in the talk*.

> 'Disputational', 'cumulative' and 'exploratory' are not meant to be descriptive categories into which all observed speech can be neatly and separately coded. They are nevertheless analytic categories because they typify ways that children observed in the SLANT project talked together in collaborative activities. We suggest that the typology offers a useful frame of reference for understanding how talk (which is inevitably resistant to neat categorisation) is used by children to 'think together' in class. (Wegerif and Mercer, 1996, p 51)

To understand what is meant by these 'typifications' it helps to have illustrations of types of talk felt to approximate to them.

Sequence 1: disputational talk

In the first sequence two boys are engaged with a piece of mathematics software. They are taking it in turns to try and find the coordinates of a lost object in a grid.

Stuart:	I'm getting fed up with this. Where's mine, five
Len:	You have just done eight fives going away (*reads from screen*) 'you are getting close', 'getting close'. You have done it, you have just done it, dickhead, you have just done it - look!
Stuart:	That's not my one.
Len:	That was. That was mine, that was yours
Stuart:	Look I'll prove it.
Len:	Look: I've done that one, you have done that one, I have done that one, you have done that one. No you have done that one.

Although in this exercise each boy learns from the others mistakes they nonetheless each claim to have 'won' when they hit upon the object in their own turn.

Commentary

In disputational talk each speaker defines themselves through their difference with others. Participants treat interaction as a competitive game between individuals each having their own interests and which each try to win. What is said is motivated by the desire to defend or to promote the interests of the speaker, or the interests that the speaker represents, in opposition to the interests of others. We can see from the illustration that the 'winner' takes all the credit despite having been helped by the information he gained tacitly from his partners choices.

Sequence 2: cumulative talk

In this sequence two girls are involved in a joint writing task. Notice the repetitions and the confirmations.

Sally:	Yeah. What if she says erm erm "All right, yeah." No, just put 'Yeah all right." No, no.
Emma:	(laughs) No. “Well I suppose I could..."
Sally:	"...spare 15p." Yeah?
Emma:	Yeah.
Sally:	"I suppose..."
Emma:	"I suppose I could spare 50p."
Sally:	"50?"
Emma:	Yeah. "Spare 50 pence."
Sally:	"50 pence."
Emma:	"50 pence. "And Angela says "That isn't enough I want to buy something else."
Sally:	Yeah, no no. "I want a drink as well you know I want some coke as well".
Emma:	"That isn't enough for bubble gum and some coke."
Sally:	Yeah, yeah.

Commentary

In cumulative talk speakers define themselves through their identification with other participants. The ground-rules of cumulative talk work to maintain the cohesion of the group. Cumulative talk is cooperative talk and can lead to knowledge construction through the sharing of perspectives. It is limited from an educational point of view in that it does not produce critically grounded knowledge. This is very evident in the illustration where Sally is misheard by Emma. Emma thinks she has heard ‘50p’ and continues with this. Sally reacts to this because she in fact said ‘15p’ but she does not challenge the mistake. The ground rules of cumulative talk give more value to group harmony than to the issue of personal ownership or to any idea of the ‘truth’.

Sequence 3: exploratory talk

In this sequence two nine year old children discuss a moral issue presented by a hypertext narrative on a computer. Where we join them the heroine of the computer story, Kate, has been told by her friend that he has stolen a box of chocolates to give to his mother for her birthday. The children now have to decide whether Kate should tell her parents or not.

Susan:	So what do you think - ‘cos is it bad, stealing? Do you think?

Adrian: No – ‘cos he was doing it for his mum.
Susan: But I think that’s stupid ‘cos he could always get some money couldn’t he?
Adrian: No.
Susan: Even off his grandparents or something?
Adrian: No but his grandparents might of died mightn’t they?
Susan: Oh yeah.
Susan: So we go for yours yeah?
Adrian: Doesn’t tell.
Susan: Doesn’t tell.

Commentary

Exploratory talk appears to be more complex than either disputational or cumulative talk. In exploratory talk critical challenges are supported but are contained within a cooperative framework. This structure can lead to competition between ideas rather than between people, with the argument that is considered to be the best winning out over other arguments. This aspect of exploratory talk can be seen in the extract where critical challenges and debate lead to Susan changing her position with no apparent loss of face. A sense of shared cooperative identity is maintained as a framework within which different perspectives can be tested out.

The Structure of the Typology

Exploratory talk is a rational, communicative achievement. It is a situated and contextualised version of the kind of argumentation which, Habermas claims, occurs when communicative action becomes reflective. When the claims implicit in speech acts are not accepted instantly but are questioned then there are only two possible outcomes: the first is a retreat into strategic action where each side tries to coerce the other into agreement and the second leads to explicit reasoning where the validity claims are suspended and debated with a view to restoring the broken consensus. In exploratory talk the instant “yes” of acceptance and the instant “no” of self-defence are both suspended and a dialogue between difference is inaugurated. The ground-rules of this type of talk allow for challenges and disagreement but these are contained within a cooperative social framework which is actively maintained. In other words the ground-rules define the paradoxical 'difference in identity' of dialogue in which participants are both brought-together and separated at the same time.

We are probably all intuitively familiar, as participants, with the possibility of abrupt transitions in talk: for example, a shift from a cooperative enquiry into personal competition when something said suddenly pulls us back from open participation into an acute awareness of our own separate identity and interests and the need to defend them. This kind of

discontinuity shows how the typology of talk does not just describe language variation, but also certain basic possibilities of human intellectual relationship.

The next sequence illustrates an abrupt transition of this kind, three nine year old pupils were working on a series of graphical puzzles taken from reasoning test (Raven's progressive matrices, Raven et al. 1991). They have been given only one answer sheet for these puzzles and asked to co-operate to reach agreement on each answer.

Sequence 4: a transition

Jane:	Yeah but there's three of them and there's 3 of them and that and that makes that.
Natalie:	No look you get three and 1 and 3 and 1 and ...
Jane:	Mr Wegerif does that and that make that?
	(*Jane appeals to the researcher who comes over but doesn't intervene*).
Natalie:	I just disagree.
Researcher:	You must give a reason. You must explain why Natalie.
Natalie:	No, because look. (*Points to the page with the graphical puzzle but does not explain*.)
George:	You have to have a reason Natalie.
	(*Natalie leaves the group table and goes over to another group*.)
George:	Natalie you're supposed to be working with us not with Sujatta.
Natalie:	I'm thinking. (*Shouted from the other table*.)
Natalie:	All right number 3. (*Natalie has come back to the table. She speaks aggressively*.)
Jane:	Don't get in a strop I want to explain something.
Natalie:	I agree, I agree.

Commentary

Up to this point the children have apparently reached a reasoned agreement on the right answer to each puzzle. Towards the end of the task, however, Natalie begins to propose answers more strongly than before, and shows exasperation with her partners through her raised voice and sharp manner. She makes it quite clear that she is simply bowing to group pressure in finally saying she agrees. She gives no reason for agreeing with the others that the answer is number 3 and refuses to listen to Jane's offered explanation. This sequence shows a fairly abrupt breakdown of the cooperative framework, as the talk moves from exploratory towards a more disputational style.

Exploratory Talk as a Situated Model of Reason

There are occasions on which both disputational and cumulative talk can be effective ways of communicating. Disputational talk may be used quite appropriately to represent irreconcilable differences between participants personal beliefs or interests. The mutuality established by cumulative talk is useful for the sharing of uncontroversial knowledge, and for recording the joint product of earlier deliberations (such as when a written summary of conclusions must reached by a group). But exploratory talk has a special status as a dialogical model of reasoning. Its 'ground-rules' are those which allow different voices to inter-animate each other in a way which not only constructs shared knowledge but also critically assesses the quality of that knowledge. The ‘yes’ of cumulative talk and the ‘no’ of disputational talk move almost instantly, with only the briefest hesitation, to the construction of different kinds of self-identity. The first constructs and maintains self-identity as in solidarity with the physically present group while the second constructs individual self-identity in opposition to others. Exploratory talk, on the other hand, does not appear to imply or require a specific form of identity commitment. By engaging in exploratory talk, participants maintain a psychological detachment both from themselves as individuals and from the group. This does not mean that what is heard is a decontextualised 'voice of reason' however, as it is necessary for participants to engage and share the perspectives of others in order to understand them. In exploratory talk 'rationality' is characterised by agility in moving between perspectives and, in particular, alternating between taking the perspective of another and standing back to critically assess that perspective. In exploratory talk, then, one ultimately identifies neither with one's own self nor with a group but rather with the dialogue. This makes it possible to try out many alternative perspectives and proposals. But of course a consistent state of detachment, in which we identify with the dialogue, is not entirely possible because in using language we necessarily construct identities: in arguing for proposals, and offering reasons in support, a speaker necessarily takes on an identity. So in exploratory talk identification with the dialogue must take the form not of avoiding perspectives, but of a kind of perpetual openness to alternative perspectives.

Levels of Analysis for Researching Types of Talk

In Chapter Three Fisher characterised types of talk in terms of ‘speech acts’ such as initiations and challenges. This is obviously an important level of analysis but on its own it is not sufficient to describe the nature of such types of talk as social modes of thinking. A type of talk is defined by the way in which participants in dialogue orientate themselves towards each other. Participants act out this orientation pragmatically by following (usually implicitly) particular sets of 'ground-rules' for selecting speech-acts. In so doing, participants will be drawing on their learning of cultural norms and associated language practices. The acquisition of 'educated' ways of thinking is essentially a matter of children acquiring and appreciating

certain ways of using language to construct knowledge - ways of thinking which are realised in the communal, cultural practices described as 'genres' and 'discourses' by systemic linguists (e.g. Fairclough, 1989; Swales, 1990; Bhatia, 1994; Martin, Christie and Rothery, 1987). Educated activities like science involve the practised use of specific, culturally-defined ways of using language as social modes of thought.

We might therefore try to capture the nature of 'types of talk' in four levels of analysis:

Level 1: at this level we are concerned with the type of talk as a 'social mode of thinking' (Mercer 1995), meaning the fundamental way in which participants in dialogue orientate themselves towards each other when they engage in the joint construction of knowledge.

Level 2: at this level, we are concerned with the ground-rules which govern the production of appropriate utterances; for example the sequences of speech acts that are allowed and those that are not.

Level 3: at this level, we deal with specific 'speech acts', or utterances classified according to their apparent function in the immediate context.

Level 4: at this level we consider the actual, particular words recorded and transcribed. We believe that explanatory accounts of the nature and function of talk observed in children's collaborative work in class benefits from an explicit reference to these four levels of analysis.

Summary and Conclusion

In this chapter, we have proposed a new kind of theoretical framework for the study of peer talk around computers. In doing so, we moved from the initial neo-Vygotskian perspective to an elaboration of a 'dialogical' theoretical framework which goes beyond Vygotsky while remaining within the broad sociocultural paradigm. This framework is based on an assumption of intersubjectivity and moves away from the focus on individual cognitive development found in both Piaget and in Vygotsky. Our new perspective enables us to define the kinds of thinking that are embodied in different types of talk. We have defined our analytic categories of three types of talk in terms of fundamental orientations that are possible between participants in dialogue. Thus 'cumulative talk' and 'disputational talk' seem to be very basic structural possibilities, while 'exploratory talk' is a hybrid form combining elements of both. Our set of three types of talk is expressly provisional, and almost certainly not exhaustive. However, the framework as a whole illustrates the kind of analytic approach which we believe is needed in research on how, in educational settings, people use language as a social mode of thinking. As other chapters in this book will demonstrate, this framework is a practical tool for the analysis of classroom discourse, and one which can be used to evaluate and improve educational practice.

This chapter ends the first section of the book, a section which is intended to provide a theoretical basis for the descriptive analyses of children's talk and joint activity which follow

in Section Two, and also for those chapters of Section Three which show teachers can apply research findings to improve their own practice regarding children's joint activity and the use of computers in classrooms. Many of the chapters which follow refer to the three types of talk idea elaborated here and several use a version of it directly as an analytic tool.