Dialogic or Dialectic? The Significance of Ontological Assumptions in Research on Educational Dialogue.

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Abstract

This paper explores the relationship between ontological assumptions and studies of educational dialogue through a focus on Bakhtin's 'dialogic'. The term dialogic is frequently appropriated to a modernist framework of assumptions, in particular the neo-Vygotskian or sociocultural tradition. However Vygotsky's theory of education is dialectic, not dialogic. From a dialogic perspective the difference between voices in dialogue is constitutive of meaning in such a way that it makes no sense to imagine 'overcoming' this difference. By contrast, due to the implicit assumption that meaning is ultimately grounded on identity rather than upon difference, the dialectic perspective applied by Vygotsky interprets differences as 'contradictions' that need to be overcome or transcended. A case study of research on Exploratory Talk is used to illustrate the potential for a fruitful relationship between 'high level' theory and research that is relevant to classroom practice.

Introduction

The relationship between philosophical frameworks and educational practice has been a topic of debate within the British Educational Research Journal (e.g.: Torrance et al; 2005, Edwards, 2001). According to Hodkinson (2004), discussion of the role of theory is

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particularly urgent now because of attempts to close down the variety of perspectives which inform educational research in favour of a single empiricist orthodoxy. In this paper I contribute to this debate by exploring one way in which ontological assumptions enter into research on educational dialogue. Ontology, enquiry into the ultimate nature of being, or 'what there really is', might appear to some to be a metaphysical concern of little relevance to education. However I argue that a failure to question ontological assumptions has led to a widespread misunderstanding of the nature of dialogic and that adopting an ontological perspective more compatible with dialogic has the potential to improve the practice of dialogue in education.

The term 'dialogic' is now widely applied to studies of educational dialogue in a way that implies that this is a specialist technical term, an impression frequently reinforced with supporting references to the work of Russian philosopher, Michael Bakhtin. Despite this evocation of theory, the term dialogic often seems to assume no more than its dictionary definition of 'pertaining to dialogue', where dialogue is sometimes defined, with Bakhtin, as 'conversation and inquiry' (e.g. Alexander, 2000, p520). This default meaning leaves underlying philosophical assumptions relatively unexamined and the result is a practice that implies a modernist philosophical framework, for example using dialogue to help teach explicit reasoning or to help in the construction of curriculum knowledge. When the term dialogic is linked explicitly to theory, Bakhtin is often located within the neo-Vygotskian socio-cultural tradition (e.g Wertsch, 1991: Mortimer and Scott, 2004; Wells, 1999). Vygotsky's account of development, and of the role of teaching and learning within development, is based upon Hegelian and Marxist dialectics which some post-modernists take to be paradigmatic of modernism (Descombes, 1980). The combination of Vygotsky and Bakhtin in this way is interesting because Bakhtin's account of dialogic could also be read as a radical challenge to the monologic assumptions of modernism in general and of dialectic in particular.

This paper begins with the argument that the basic idea of dialogic, the idea that meaning always implies at least two voices, assumes underlying difference rather than identity. Bakhtin's exploration of dialogic is then contrasted with Vygotsky's use of dialectic. The educational significance of the difference between dialectic and dialogic is brought out through comparing two accounts of how infants first learn how to use signs through

learning how to point: the first account focussing on dialectic mediation by tool-use and the second on dialogic mediation through human relationship. The ontological assumptions underlying these two accounts of mediation are then clarified in order to argue that they are incompatible. Some practical implications of this conceptual incompatibility are brought out through a critique of Wertsch's influential attempt to synthesise an educational theory by combining ideas from Bakhtin with ideas from Vygotsky. Finally a brief case-study of the research programme around Exploratory Talk in classrooms is used to illustrate some of the ways in which epistemological and ontological theory impacts upon, and is, in turn, influenced by, empirical classroom research.

Unpacking the implications of dialogic

The standard short definition of dialogic is that the meaning of an utterance is given by its location within a dialogue. It follows that to understand any utterance we have to look at the past utterances that it is responding to and the future utterances that it anticipates. Versions of this definition are widely repeated wherever the term dialogic is used in a technical sense and seem to be accepted by researchers from a range of traditions. However this simple claim has radical implications. Wertsch brings out the relationship between dialogic and a critique of identity thinking when he writes, in definition of dialogicality: 'when a speaker produces an utterance at least two voices can be heard simultaneously' (Wertsch, 1991, p13). Bakhtin uses the term 'inter-animation' or 'inter-illumination' to indicate that the meaning of an utterance is not reducible to the intentions of the speaker or to the response of the addressee but emerges between these two (Holquist, 1981, p 429-430). Contexts of communication have a history that speaks through words in ways that cannot all be controlled by a speaker. Bakhtin points out that we do not take words from a dictionary but from the mouths of other speakers and so they carry with them the voices of those who have used them before (Bakhtin, 1981, p294). The significance given to an utterance by its past is no more stable than the significance it may be given by those who take it up in the future. Bakhtin uses the example of the way in which each generation of scholars re-visit and re-interpret textual fragments from ancient Greece to illustrate that there can be no final or fixed interpretation of an utterance (Bakhin, 1986, p5 and 170). Both Markova (2003) and Sidorkin (1999) point

out that, in his analysis of dialogic, Bakhtin goes beyond epistemology, or the issue of how we know things, into the realm of ontology, or the issue of the ultimate nature of things. Bakhtin concludes that the world for us, that is the world of meaning, is essentially dialogic. This implies that meaning cannot be grounded upon any fixed or stable identities but is the product of difference.

Contrasting dialectic and dialogic

Dialogic is often included as part of a socio-cultural position and even sometimes sourced to Vygotsky as well as to Bakhtin (for example, see Wells, 1999, p 104 and throughout). Vygotsky is not however, a dialogic thinker in Bakhtin's sense of this term. In the only book Vygotsky himself prepared for publication, Thinking and Speech (also translated as Thought and Language), he does not explicitly discuss dialogue except briefly in the last chapter, chapter 7, where he contrasts its limited and context bound nature to that of written monologue. He concludes:

> Psychological investigation leaves no doubt that monologue is the higher, more
> complicated form, and of later historical development.(Vygotsky, 1986, p 242)

This fits well with his larger account of development which, as Wertsch has pointed out is essentially modernist. In making this claim Wertsch uses Toulmin's account of modernism as privileging a formal, abstract and universal image of reason over an image of reason as situated in real dialogues (Wertsch, 1996: Toulmin, 1990: Wegerif, 1999). The only descriptions of dialogues given in Thinking and Speech are extracts taken from the novels of Tolstoy and Dostoevsky. Vygotsky uses these extracts to argue that, as people get closer to intersubjective understanding in a dialogue, their need for explicit articulation becomes less, words and phrases become abbreviated, and they retreat towards the silence of a single consciousness (Vygotsky, p 237: Cheyne and Tarulli, 1999). Bakhtin, by contrast, explicitly denies that the self can be understood in simple terms of self-identity:

> *A human being never coincides with himself. The formula of identity "A is*
> *A" is not applicable to him.(Bakhtin, Problemy poetiki Dostoevskogo, p*
> *79. quoted by Sidorkin, 1999)*

Sidorkin claims that, for Bakhtin, the basis of being human (or human being) is not self-identity but the opening of dialogue, an opening which always implies the simultaneous inter-animation of more than one voice (Sidorkin, 1999).

Vygotsky himself does not refer to either his methods or his claims as 'dialogic', he does however, refer to both as 'dialectic'. According to Van der Veer and Valsiner, Vygotsky was probably more influenced by Hegelian dialectic than by Marxist dialectic and this is apparent in his writings (Van der Veer and Valsiner, 1991). At one point, for example, Vygotsky implies that his whole approach to psychology can be described as the application of the Hegelian dialectic to the issue of individual cognitive development:

> *Thus we may say that we become ourselves through others and that this rule applies not only to the personality as a whole, but also to the history of every individual function. This is the essence of the progress of cultural development expressed in a purely logical form. The personality becomes for itself what it is in itself through what it is for others (Vygotsky, 1991, p 39).*

The account he gives here of development from 'being-in-itself' to a more complex, self-related, 'being-for-itself' through the passage of 'being-for-others' is taken almost directly from Hegel's account of the development of spirit (see, for example, Hegel, 1975, p 139). A key feature of dialectic in both Hegel and Marx is that it attempts to integrate real dialogues and struggles into a logical story of development leading to unity either in the 'Absolute Notion' of Hegel or the truly rational society under global communism of Marx. In Thinking and Speech, Vygotsky describes how dialectical processes, particularly the internalisation of cultural tools, lead to the development of autonomous rational individual selves (Vygotsky, 1987). We can assume, from Vygotsky's many convincing affirmations of a commitment to Marx's dialectical materialist account of history, that this individual development was not seen by him in isolation from social history but as part of a dialectic progress of society towards a more complexly mediated unity (Kozulin, 1986).

Bakhtin was clear about the significance of the distinction to be made between dialectic and dialogic. He describes Hegel's account of the development of the personality in the

Phenomenology of Spirit, the account explicitly adopted and applied to psychology by Vygotsky, as 'a monologism' (Bakhtin, 1986, p 162). He writes of dialectic:

> *Take a dialogue and remove the voices (the partitioning of voices), remove the intonations (emotional and individualizing ones), carve out abstract concepts and judgments from living words and responses, cram everything into one abstract consciousness -- and that's how you get dialectics.*
> *(Bakhtin, 1986, p147)*

Bakhtin's main point here is that dialectic is a dynamic form of logic leading all apparent differences to be subsumed into identity in the form of a more complexly integrated synthesis, it is not dialogic since dialogic refers to the inter-animation of real voices where there is no 'overcoming' or 'synthesis'. The Vygotsky of Thinking and Speech presents himself as a dialectical thinker who gives asymmetrical instructional dialogue between teachers and learners a role in his theory of development. While he offers insights which have been read by some in a dialogic way, it is misleading to refer to him as a dialogic thinker or to refer to his theory of education and development as a dialogic theory.

Dialectic and Dialogic accounts of mediated learning

Anne Edwards argues convincingly that Vygotsky's most significant contribution to educational studies is the idea of tool mediated action (Edwards, 2005). She illustrates the significance of this with examples of how the way in which young children solve arithmetic problems reveals the tools that they are using, which may be external tools such as pencil and paper or mental strategies. Following Vygotsky, she presents this in diagrammatic form as a mediation triangle (see figure 1).

Figure 1: Vygotsky's mediational triangle (from Edwards, 2005)

Mediational Means (Tools)
(Machines, writing, speaking,
gesture, architecture, music, etc)

Subjects
(Individuals, dyads, groups)

Object/Motive → Outcome(s)
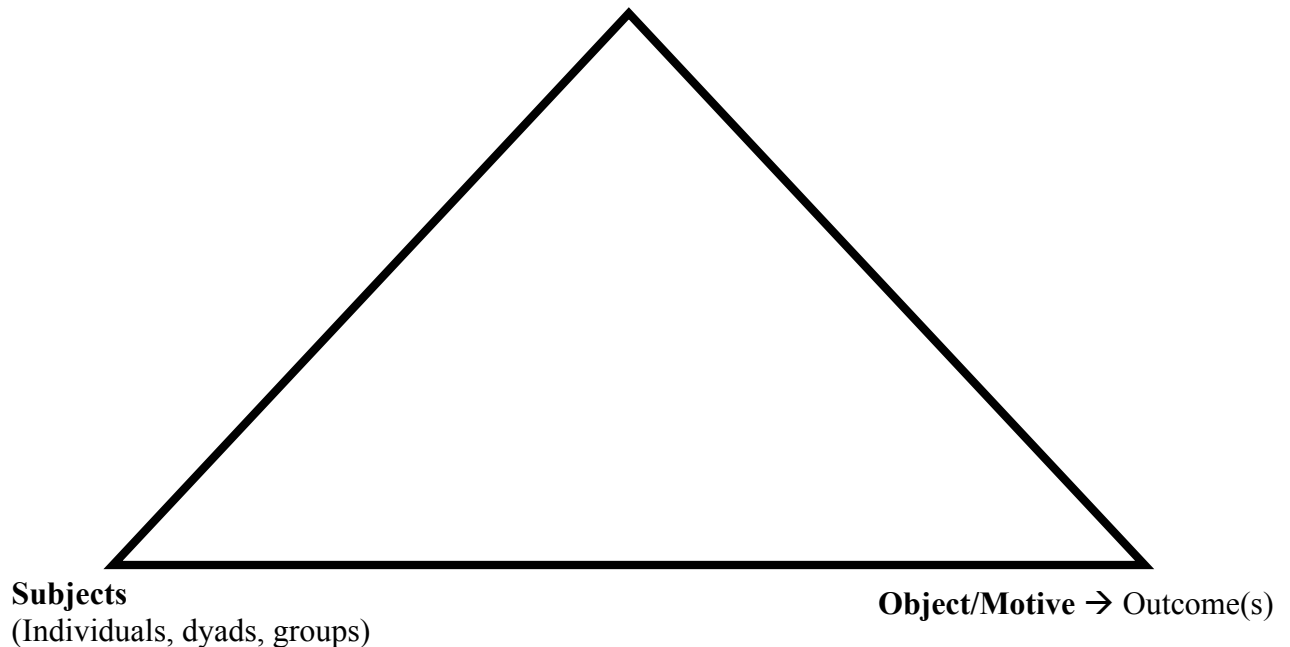
Vygotsky does not claim to have originated this triangle but correctly attributes the basic idea that 'mind is mediated' to Hegel. He quote's Hegel's account of 'the cunning of Reason' or how Reason achieves its intended ends indirectly 'by causing objects to act and react on each other in accordance with their own nature' (Vygotsky, 1978, p54). Vygotsky continues with a quote from 'Das Capital' where Marx applies this Hegelian concept of mediation to understand human tool use, describing how the physical properties of objects are used by 'man' as 'forces that affect other objects in order to fulfil his personal goals' (Marx, Capital, p199, quoted by Vygotsky, 1978, p54). According to Vygotsky, signs can be subsumed under the category of tools because they mediate our actions in a similar way. Marx explicitly included language and consciousness as 'tools', in this sense, referring to language as 'practical consciousness' implying that it is first a tool for the coordination of productive activity and then becomes internalised (Marx, 1977, p167). Vygotsky's originality, therefore, lies not in the idea that cognition is mediated by signs and tools, an idea already central to Hegelian and Marxist dialectic, but in applying this dialectic to individual psychology in order to sketch an account of the development of the 'higher mental faculties'. To illustrate this Vygotsky gives the simple example of how tying a knot in a handkerchief can be used as a tool to aide memory (Vygotsky, 1978, p51). The knot-sign then becomes a cognitive tool whose

aim is not to change objects in the world but to control internal mental processes. In a similar way he claims that rational thought results from the 'internalisation' of 'scientific' language mediated by formal schooling (e.g. Vygotsky, 1986, p206: Daniels, 2001, p 53-55).

Bakhtin's dialogic perspective was developed as a contrast to the dialectic assumed by Vygotsky. That this dialogic perspective is not easily compatible with Vygotsky's account of education, can be brought out through re-considering Vygotsky's analysis of the how children first learn to use signs by learning how to point. Vygotsky writes that infants grasp towards an object that they want but cannot reach and then their mother, interpreting their reaching action as a desire for the object, gives them the object. Eventually, Vygotsky claims, infants learn sign-mediated action, that is they learn that they can achieve their desires through others by using signs (Vygotsky 1981, p160-161 quoted by Wertsch 1985 p64). Wertsch takes this account of learning how to point to be paradigmatic of the teaching and learning of cultural tools in general. It sums up Vygotsky's account of mediated action in the Zone of Proximal Development whereby teachers interpret children's spontaneous sign use ahead of the children's conscious understanding in order to draw them, at first unconsciously, into a more culturally mediated use of signs (Wertsch, 1998, p 133).

However Vygotsky's account of how children learn to point through trying first to act directly on the external world has been questioned by more recent work in developmental psychology. Baron-Cohen provides convincing experimental evidence that autistic children have no trouble mastering 'proto-imperative' use of pointing to show that they want something but fail to master more communicative 'proto-declarative' use of pointing as a sign intended to direct another's interest (Baron-Cohen, 1994, quoted by Vila, 1996, p194). Peter Hobson argues from this, and other evidence, that the establishment of an initial dialogic relationship with the mother (or other primary care-giver) is an essential precursor to the development of declarative pointing and all other forms of symbolising. Those infants who, for whatever reason, fail to establish a dialogic relationship with their mothers, fail to follow the mother's gaze and so fail to understanding pointing as a sign (Hobson 2002: 1998)

Hobson's straightforward claim is that infants learn to read and to use signs in the context of a dialogic relationship which gives those signs a meaning. He illustrates this with a self-other-sign mediation triangle (a similar 'dialogic' triangle is offered by Moscovici 1984 reproduced in Markova 2003, p152) .

Figure 2: Self-Other-Sign adapted from Hobson and Moscovici

As with infants learning to point, a dialogic perspective argues that education more generally takes place within dialogic human relationships in which students learn to see things from at least two perspectives at once, their own point of view and that of their teacher.

Dialogic and ontological difference.

The self-other-sign triangle makes mediation by others look similar to, and perhaps compatible with, mediation by tools. However, as Bakhtin points out, relationships between things are very different from relationships between voices (Bakhtin, 1986, p 138 and 162). For each participant in a dialogue the voice of the other is an outside perspective that includes them within it. The boundary between subjects is not therefore a demarcation line, or an external link between self and other, but an inclusive 'space' of dialogue within which self and other mutually construct and re-construct each other. Any sign taken to be a mediation between self and other, a word or a facial expression, must pre-suppose the prior opening of a space of dialogue within which such a sign can be taken to mean something. Bakhtin tends to locate this opening in the difference between

two voices or texts in a dialogue (e.g Bakhtin, 1978, p162). This is true at what Heidegger calls the 'ontic' or surface level but Bakhtin also argues that voices and texts are constructed within and through dialogue which implies that the opening of dialogue is also an underlying ontological principle such that difference has 'always already' opened a space of meaning whenever we start to talk or to think. The idea of prior and original difference connects dialogic to the theme of ontological difference that, in philosophy is sometimes used to characterize positions labeled 'post-modern'. What I am referring to a ontological difference is perhaps best known through the writings of Derrida, particularly his seminal essay, 'La différance', (Derrida, 1968) In this essay Derrida argues that meaning is a product of an, always prior, act of differentiating that includes the differing of space and the deferring of time. Derrida is not easy to apply to education partly because he resists interpretation and he would certainly deny the interpretation that he is offering a new ontology preferring perhaps the idea of an anti-ontology (see Biesta, 2004) However Derrida presents his understanding of difference through a critical development of ideas from Heidegger to which he remains close. In Heidegger's 1957 lecture on 'Identity and Difference' he interrogates what he calls the 'A = A' principle of identity thinking and finds the origin of meaning in an unmediated 'ontological difference' (Heidegger, 1969). Heidegger's account of this ontological difference is an account of how 'mankind' and Being belong together in what he calls 'the event of appropriation' (ereignis) which he describes as a movement of 'overwhelming' and 'arrival' and as the 'circling' (ineinander) of the Being of beings and the beings of Being around the invisible unmediated difference between them (Heidegger, 1969, p69).

I am not sure that I understand Heidegger here but one way I choose to interpret the significance that Heidegger gives to his distinction between beings and Being is through Merleau-Ponty's more visual account of the difference between figure and ground, the idea that bounded things or objects stand-out from and are defined against an implicit background. Merleau-Ponty, whose later work was influenced by Heidegger, offers an account of perception that shares some of the structure of Heidegger's account of *ereignis*. As a person stands forth in a landscape, a horizon instantly forms around them stretching away in every direction as far as the eye can see (the idea of 'arrival') but at the same time as the person's gaze precipitates this horizon they also experience

themselves placed as an object within their horizon as if the unsituated gaze of the horizon was looking at them and locating them within it (a possible picture of Heidegger's 'overwhelming'). Merleau-Ponty refers to these two sides, the looking out and the looking in, together as a 'chiasm', a term now increasingly taken up by dialogical theorists (e.g. Shotter, 2001). The word chiasm is borrowed from grammar where it refers to the reversability of the subject and the object in a sentence and is used by Merleau-Ponty to refer to the mutual envelopment (a translation of Heidegger's term 'ineinander') and reversibility between two total perspectives on the world around an unbridgable gap or 'hinge' which is also, he writes, an opening or 'déhiscence' of meaning (Merleau-Ponty, 1964, p 194, 201: 1968, p 148, 153).

Bakhtin, in his notes on 'Methodology for the Human Sciences' articulates a similar view to that of Merleau-Ponty's chiasm writing:

> Thought about the world and thought in the world. Thought striving to embrace the world and thought experiencing itself in the world (as part of it). An event in the world and participation in it. The world as an event (and not as existence in ready-made form).(Bakhtin, 1991, p162)

This passage reinforces the interpretation that Bakhtin's *dialogic* joins Heidegger's *ereignis*, Derrida's *différance* and Merleau-Ponty's *chiasm* as a variation on the theme of ontological difference. Of course there are important differences between these accounts but they share the claim that meaning for us is not groundable on any kind of thing or identity but arises out of a relation of difference or differentiating.

Unpicking the 'synthesis' of Vygotsky and Bakhtin

Wertsch (1991) refers to Bakhtin's contrast between the 'authoritative' and the 'persuasive' word in 'Voices of the Mind' and elaborates from it to a theory of learning as appropriating the voices of others based on Bakhtin's own account of how we appropriate the words of others:

> *The word in language is half someone else's. It becomes "one's own" only when the speaker populates it with his intention, with his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. (Bakhtin, 1986, p293-294).*

Wertsch used another idea from Bakhtin to describe the process of appropriating the voices of others as involving stages of 'ventriloquation' whereby learners begin by speaking the voices of others without integrating them and then gradually, the initially foreign voices become indistinguishable from their own voice. This account replaces Vygotsky's concept of the internalization of tools with Bakhtin's account of the appropriation of cultural voices but remaining within Vygotsky's developmental framework to argue that learning involves the appropriation of cultural voices. However a 'voice' is not a tool but an answer to the question 'who is speaking'. This raises a conceptual problem for Wertsch's synthesis of Bakhin and Vygotsky: are we appropriating cultural voices or are they appropriating us? The problem of 'ventriloquation' as an educational 'tool' can be dramatized through an example from ethnography. When a Tibetan oracle priest invokes a protective deity and allows that deity to speak through his voice he loses consciousness and can remember nothing at all of what the spirit said and did when in possession of his body (Govinda, 1988 p178 to 192). From the modernist perspective embodied in Vygotsky's subject-tool-object triangle, it is clear that the 'deity' here is a cultural tool used by the priest but from inside the local cultural context it is equally clear that the deity is the agent and the priest is the tool. In a similar way in education it is not obvious that students appropriate an 'educated voice', for example, as a tool or whether this voice appropriates and makes use of students. The idea that, in education, discourses acquire subjects is a recognized 'post-modern' theme often sourced to Foucault (e.g Walkerdine, 1988).

Bakhtin points out that all words are voiced and have traces of multiple voices. He writes, in a comment on structuralism, 'But I hear *voices* in everything and dialogic relations between them' (Bakhtin, 1978, p 169). One implication of this is brought out by Merleau-Ponty when he writes that signs 'possess us' as much as we possess them (Merleau-Ponty, 1967, p151, p190). Vygotsky also, possibly, referred to this in an indirect way when he quoted Levy-Bruhl to describe the pre-conceptual thought of children and 'primitive' people as 'participatory' and similar to the thinking of schizophrenics (Vygotsky, 1986, p 236). Vygotsky's account of development involved the dialectical overcoming of participatory thought. A dialogic perspective, on the other hand, assumes such 'participation' as the ineluctable context of thought.

Ontological assumptions in research on 'Exploratory Talk'

'Exploratory talk' as a description of a desirable type of educational dialogue between peers, goes back to the work of Douglas Barnes in the 1970's who stressed the 'hypothetical' nature of educationally productive group talk (Barnes, 1976). In its more recent incarnation it emerged from the analysis of children talking together in classrooms as one of three 'types of talk' (Wegerif and Scrimshaw, 1997). It is distinguished from the other types of peer talk, Cumulative Talk and Disputational Talk, through the criteria that 'reasoning is visible in the talk' (Mercer, 1995). The research team shared the view that this explicit reasoning made claims accountable and facilitated the separation of constructive conflict between ideas from disruptive conflict between people. Exploratory talk seemed to offer an empirical vindication of the value of Habermas's model of 'communicative rationality'. Habermas's model combines dialogic elements, such a redescription of rationality in terms of orientations between participants in real speech situations (Habermas, 1991, p314), with more modernist elements such as a focus on the abstract rationality of debate between universalizing truth claims. For Habermas explicit reasoning was the only way to transcend local contexts in order to establish shared criteria for scientific understanding and for social progress (Habermas, 1984, 1991). Research on Exploratory Talk similarly appeared to demonstrate that explicit reasoning was the best way to construct shared knowledge in the classroom (Wegerif et al, 1999: Mercer, et al, 2004).

Within the 'dialogic framework' used as an analytic tool 'types of talk' were characterized by 'intersubjective orientations' or the way in which people respond to each other in a dialogue, and also by types of self-identity within the talk. Disputational Talk was described as implying identification with a single self-position to be defended against others in conversations that were treated as zero-sum games with winners and losers. That Cumulative Talk implied identification with the group was claimed to be revealed in the avoidance of anything that might be disruptive to group solidarity, including explicit critical challenges. Exploratory Talk was characterized through identification with the aims of the dialogue itself. This slightly awkward claim was based on the observation that successful Exploratory Talk depended crucially not only on the use of explicit reasoning but also on the willingness of group members to change their minds, reflectively criticize

ideas that they themselves had put forward and admit their lack of understanding. These features of successful talk seemed to indicate an identification beyond either self or group with the dialogue as a process of shared inquiry. (Wegerif and Mercer, 1997, p59)

The research team were always aware of a fourth type of talk which they labeled 'playful talk'. In one set of workshops in Mexico members of the larger research team even went as far as characterizing this type of talk in terms of intersubjective orientations, structuring ground rules and typical exchange structures (Wegerif, 2005). However 'Playful Talk' did not appear in print initially as, unlike the trinity of Exploratory Talk, Cumulative Talk and Disputational Talk, it did not seem to the team to be directly relevant to educational goals.

The method of using Raven's Standard Progressive Matrices non-verbal reasoning test problems as a task for assessing the quality of Exploratory Talk illustrates an interest in the relationship between talk and reasoning. These tests are designed to be 'culture-free' and consist of a grid of abstract designs. The test subjects solve the problem through finding a pattern linking the designs. To provide an assessment of the quality of talk, these tests were given to small groups of children who were asked to solve them by working together (Wegerif, 1996). This method provides observation and video-recordings of shared problem solving combined with quantitative outcomes that can be used to assess the impact of exploratory talk. Used in combination with individual reasoning tests it can indicate a relation between the development of group thinking and individual thinking (Wegerif et al, 1999). Given as a pre and post-test around an intervention study it can be used to reveal changes in the way that children talk together and relate these to a measurable outcome in their ability to solve the test problems correctly. It was used in this way to assess the effectiveness of teaching programmes in increasing the amount of Exploratory Talk in both the UK and in Mexico (Wegerif et al, 2005). Detailed analyses of how students solve these problems together illustrate language being used as a tool for thinking (Mercer, 2000, p 155-157: Wegerif and Mercer, 2000; Fernandez et al, 2002).

Observation and video analysis suggests that before difficult puzzles are solved there are often long pauses during which the children stare together at the problem with slightly furrowed foreheads. When a solution is seen this is evident in the body language and the

eyes of the child who 'sees it first' they then tries to communicate it to the others, often failing initially and forging new 'tools' together in the form of phrases such as 'taking the circle out' or 'the lines are getting bigger' (Wegerif and Mercer, 2000, provide illustrations and extensive transcripts so these are not given here). It may be that expressing the features of puzzles clearly and exploring and rejecting a range of alternative possible solutions helps to prepare the ground for such breakthroughs, but it is equally clear that the use of explicit language as a shared tool for thinking does not mechanically cause the emergence of the new metaphor or way of seeing the puzzle which provides the solution. According to the manual for the test, the kind of 'educive' thinking involved in seeing a pattern emerge in a Ravens Matrix is inherently creative and resists solution through the application of tools (Raven et al, 1995).

The empirical finding that group solutions to the more difficult reasoning test puzzles emerged, apparently uncaused, out of a particular kind of silence, questions the centrality given to explicit reasoning in definitions of Exploratory Talk. The role of explicit reasoning is further questioned by the findings of a study conducted by researchers in Mexico comparing the impact of teaching Exploratory Talk on a divergent shared writing task that could have many equally valid outcomes as well as on a convergent reasoning test task that has only one 'correct' answer. This study found that the talk around the shared writing task improved significantly in many ways, as did the quality of the creative product, but that this improvement was not associated with any increase in explicit reasoning (Mazón et al, 2005). While all studies confirm that Exploratory Talk produces educationally desired outcomes it is not completely clear that the key mechanism is, as has been claimed, 'the use of language as a tool for reasoning' (Mercer et al, 2004). It seems plausible that this provisional conclusion may have been influenced by assumptions built into the methodology, for example the choice of reasoning tests as a task for the assessment of the quality of talk and also the methodological choice to focus analysis on transcripts of talk. An alternative possibility is that the ground rules of Exploratory Talk, ground rules such as asking each other open questions and listening with respect, serve to open and maintain a dialogic 'space of reflection' which facilitates the emergence of creative solutions to problems (Wegerif, 2005). This way of seeing the issue does not provide a complete answer to the question of how Exploratory Talk works

but it suggests a practical research agenda that could explore this question further, including the development and evaluation of pedagogical strategies explicitly designed to improve the creative quality of relationships rather than focusing on modeling the use of language as an explicit tool.

Discussion

The interpretation of Exploratory Talk in terms of the use of language as a tool for explicit reasoning implies the modernist framework of interpretation provided by Vygotsky's theory of mediated action with some influence from Habermas's theory of communicative rationality. The competing interpretation of Exploratory Talk as a creative space of reflection, implies the dialogic perspective of Bakhtin with perhaps some influence from a particular reading of Derrida. Each interpretation has implications for pedagogy and can be assessed in terms of its fruitfulness in explaining research findings. Indeed the second interpretation emerged as a response to empirical challenges to the first interpretation. The relationship between research and theory illustrated here is not one-way but reciprocal. For example, the empirical finding that problem-solving, even in the context of reasoning test problems, relies more on the spontaneous generation of new metaphors as 'ways of seeing' than upon explicit reasoning, calls into question claims made by Habermas about the importance of explicit argumentation to communicative rationality (e.g Habermas, 1991, p10).

The idea that shared thinking may be more a matter of spontaneous dialogic creativity than of explicit tool use leads to a revaluing of 'playful talk' which, from this perspective, looks like a baseline from which socially valued creativity emerges (Wegerif, 2005). This illustrates how phenomena that are not highly visible from one theoretical perspective may become more visible from another perspective. Educational goals also follow from ontological commitments. When Piaget writes that intelligence 'tries to embrace the universe' (Piaget, 1971, p 49) he is expressing an implication of his modernist theoretical framework. Vygotsky expresses an almost identical vision (Vygotsky, 1986 p199). Merleau-Ponty, however, assuming an ontology of 'identity within difference' (Merleau-Ponty, p 225), writes that this ambition of theory to grasp everything is impossible: 'since what there is to be grasped is a dispossession' (Merleau-Ponty, 1967, p266). Bakhtin associates the ambition to grasp everything with Hegel's dialectic and writes that this

attempt to 'erase the divisions between voices' would close down the infinite potential for meaning of dialogue (Bakhtin 1986, p162). He appears to advocate instead what he calls a 'prophetic attitude', always open to the possibility of the 'unexpected' (Bakhtin, 1986, p167). Heidegger could be said to be merely drawing out a consequence of his account of ontological difference when he writes, in the context of a discussion of the nature of thinking, that the most important thing to be learnt is 'learning itself' (Heidegger, 1978, p380).

Within a modernist philosophical framework it is easy to understand metaphors of tool use and construction but hard to conceptualise teaching for creativity and for learning to learn. When dialogic as ontology is assumed, by contrast, then creativity, learning to learn, and an ethics of openness to the other, are relatively easy to understand as closely related fruits of deeper identification with the space of dialogue itself (Wegerif, 2005: Bakhtin, p167).

Conclusion

Lack of careful conceptual analysis has allowed Bakhtin's distinctive dialogic voice to be appropriated within a modernist interpretative framework. In particular superficial resemblances between the ideas of Bakhtin and those of Vygotsky have led to dialogic being conflated with dialectic within a single neo-Vygotskian, 'socio-cultural' paradigm. This paper has argued that dialogic and dialectic imply incompatible assumptions about meaning: dialogic presupposes that meaning arises only in the context of difference, whereas dialectic presupposes that differences are contradictions leading to a movement of overcoming. This work of conceptual clarification is important because it rescues Bakhtin's distinctive voice from the danger of becoming appropriated to a competing voice and so adds to the range of perspectives available for educational research. The case study of research on Exploratory Talk, offered in this paper, illustrates the general point that there are always theoretical assumptions involved in research determining which phenomena are visible and which are invisible and making different educational goals and pedagogical strategies either thinkable or unthinkable. It follows that engaging in the discussion and development of educational theory is not an optional luxury but an essential component of what it means to be an effective educational researcher.

References

Alexander, R. *(2000) Culture and Pedagogy.* (Oxford, Blackwell).

Bakhtin, M. (1981) *The Dialogic Imagination*. (Austin, University of Texas Press).

Bakhtin, M. (1986) *Speech Genres and Other Late Essays*. (Austin, University of Texas).

Barnes, D. (1976) From Communication to Curriculum. (Harmondsworth, Penguin).

Biesta, G. J. J. (2004)."Mind the gap!" Communication and the educational relation. In C.Bingham and A.M.Sidorkin (eds) *No education without relation* (pp. 11-22). New York: Peter Lang.

Cheyne, J. A., & Tarulli, D. (1999). Dialogue, Difference, and the "Third Voice" in the Zone of Proximal Development. *Theory and Psychology, 9,* 5-28.

Daniels, H. (2001) *Vygotsky and Pedagogy*. (London, Routledge).

Deridda, J. (1968) La Différance in: *Théorie d'ensemble* (Paris, Éditions de Seuil).

Descombes, V. (1980) *Modern French Philosophy* (Cambridge, Cambridge UP).

Edwards, A. (2001) *Responsible Research: Ways of Being a Researcher*. Presidential Address. BERA Annual Conference, Leeds.

Edwards, A. (2005) Let's get beyond community and practice: the many meanings of learning by participating. *The Curriculum Journal*. Vol. 16, No. 1, pp. 49 – 65

Fernandez, M., Wegerif, R., Mercer, N. and Rojas-Drummond, S. M. (2002). Re-conceptualising "scaffolding" and the Zone of Proximal Development in the context of symmetrical collaborative learning. *Journal of Classroom Interaction*. 36(2). 40-54.

Govinda, Lama Anagarika (1988) The Way of the White Clouds: A Buddhist Pilgrim in Tibet (Shambhala Dragon Editions, Boston, MA, USA).

Habermas, J. (1984) What is Universal Pragmatics?, In *Communication and the Evolution of Society* (Cambridge, Polity).

Habermas, J. (1991) *The Theory of Communicative Action. Vol 1*. (Cambridge, Polity Press).

Hegel, G. W. F. (1975) *The Logic of Hegel* (Wallace, W, Trans.) (Oxford, Clarendon Press).

Heidegger, M. (1969) *Identity and Difference*. Bilingual ed., trans. J. Stambaugh. (New York, Harper and Row).

Heidegger, M., (1978) *Basic Writings*. London, Routledge

Hobson, R. P (2002) *The Cradle of Thought : Exploring the Origins of Thinking*. (London, Macmillan)

Hobson, R. P. (1998) The intersubjective foundations of thought. In S. Braten (ed.) *Intersubjective Communication and Emotion in Ontogeny*. (Cambridge, Cambridge University Press)

Hodkinson, P. (2004) Research as a form of work: expertise, community and methodological objectivity British Educational Research Journal, 2004; 30: 9–26

Holquist, M. (1981) Glossary for Bakhtin, M. *The Dialogic Imagination*. (Austin, University of Texas Press).

Kozulin, A. (1986) Introduction to Vygotsky, L. . (1986) *Thought and Language*. (Translated by Kozulin) (Cambridge Ma., MIT Press)

Markova, I. (2003). Dialogicality and Social Representations: the Dynamics of Mind. (Cambridge, Cambridge University Press).

Marx, K (1977) Selected writings (Translated and Edited by David McLellan). (Oxford, OUP).

Mazón, N., Rojas-Drummond, S. M. & Vélez, M. (2005). Efectos de un programa de fortalecimiento de habilidades de comprensión de textos en educandos de primaria. *Revista Mexicana de Psicología*.

Mercer, N. (1995) *The Guided Construction of Knowledge: talk amongst teachers and learners*. (Clevedon, Multilingual Matters).

Mercer, N (2000) Words and Minds: How we use language to think together. (London, Routledge)

Mercer, N., Dawes, R., Wegerif, R., & Sams, C. (2004) Reasoning as a scientist: ways of helping children to use language to learn science. *British Educational Research Journal*, 30, 3, 367-385.

Merleau-Ponty, M. (1964) *Le Visible et L'Invisible*, (Paris,Gallimard).

Merleau-Ponty, M. (1968) *The Visible and the Invisible*, Edited by Claude Lefort, translated by Alphonso Lingis. (Evanston, Il, Northwestern University Press).

Mortimer, E. F. and Scott, P. H. (2004) *Meaning making in science classrooms*. (Maidenhead, Berks, Open University Press)

Moscovici, S. (1984). Introduction: Le domaine de la psychologie sociale. In S. Moscovici (Ed.), Psychologie sociale. (Paris, Presses Universitaires de France).

Raven, J., Court, J. & Raven, J. C. (1995) *Manual for Raven's progressive matrices and vocabulary scales* (Oxford, Oxford Psychologists Press).

Shotter, J. (2001) Toward A Third Revolution In Psychology: From Inner Mental Representations To Dialogical Social Practices. In D Bakhurst and S Shanker (Eds.) *Culture, Language, Self: the Philosophical Psychology of Jerome Bruner*, (London: Sage Publications).

Sidorkin, A. M. (1999). *Beyond discourse: Education, the self and dialogue*. (New York, State University of New York Press).

Torrance, H; Sikes, P; Cooper, B and Stronach, I (2005) Editorial. *British Educational Research Journal.* 31: 137-138

Toulmin, Stephen (1990) *Cosmopolis: the hidden agenda of modernity* (New York, Free Press).

Van der Veer, R., & Valsiner, J. (1991). *Understanding Vygotsky: a quest for synthesis*. (Oxford, Blackwells).

Vygotsky, L. (1981). The genesis of higher mental functions. In J. Wertsch (Ed.) The concept of activity in Soviet psychology (pp. 147-188), (New York, Sharpe, Inc).

Vygotsky, L. . (1986) *Thought and Language*. (Translated by A. Kozulin) (Cambridge Ma., MIT Press)

Vygotsky, L. 1991. The Genesis of Higher Mental functions. In *Learning to think*, edited by P. Light, S. Sheldon and B. Woodhead. (London, Routledge).

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. (Cambridge, MA, Harvard University Press).

Vygotsky, L.S. (1987). *The collected works of L.S. Vygotsky. Volume 1. Problems of general psychology. Including the Volume Thinking and speech*. (edited and translated by N. Minick). (New York, Plenum).

Walkerdine, V. (1988) *The Mastery of Reason*, (London, Routledge).

Wegerif, R and Mercer, N (2000) Language for Thinking: a study of children solving reasoning test problems together. In Cowie, H, Aalsvoort, D. *Social Interaction in*

Learning and Instruction: the meaning of discourse for the construction of knowledge. (Oxford, Elsevier).

Wegerif, R. (1996) Using computers to help coach exploratory talk across the curriculum. *Computers and Education* 26 (1-3): 51-60.

Wegerif, R. (1999) Two images of reason in educational theory. The School Field. 9 (3-4), 77-107.

Wegerif, R. (2005) Reason and Creativity in Classroom Dialogues. Language and Education. Vol 19, No 3.

Wegerif, R. and Scrimshaw, P. (1998) *Computers and Talk in the Primary Classroom*, (Clevedon, Multilingual Matters).

Wegerif, R., Mercer, N., & Dawes, L. (1999). From social interaction to individual reasoning: an empirical investigation of a possible socio-cultural model of cognitive development. *Learning and Instruction, 9*(5), 493-516.

Wegerif, R., Perez Linares, J., Rojas Drummond, S., Mercer, N., Velez, M (2005) Thinking Together in the UK and Mexico: transfer of an educational innovation. Journal of Classroom Interaction. Vol 40, No 1.

Wells, G. (1999) Dialogic inquiry: Towards a sociocultural practice and theory of education. (New York, Cambridge University Press).

Wertsch, J. (1996). The role of abstract rationality in Vygotsky's image of mind. In A. Tryphon & J. Voneche (Eds.), Piaget – Vygotsky: The Social Genesis of Thought, . (Hove, Psychology Press).

Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. (Cambridge Ma, Harvard University press).

Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. (Cambridge Ma, Harvard University press).

Wertsch, J. V. (1991). *Voices of the Mind*. (New York, Harvester).

Wertsch, J. V., & Kazak, S. (In press). Saying more than you know in instructional settings. In T. Koschmann (Ed.), *Theorizing learning practice*. (Mahwah, NJ, Erlbaum).

Wertsch, J.V. (1998) *Mind as Action*. (New York, Oxford University Press).