

UNDERWRITING ACTION: DISCURSIVE PSYCHOLOGY AND THE DISCOURSE OF A PRIMARY MATHEMATICS CLASSROOM.

Richard Barwell

University of Bristol

This paper introduces the discursive psychology of Edwards, Potter, Wetherell and others and sets out how it addresses some of the difficulties I have encountered in interpreting interaction in multilingual classrooms. Discursive psychology rejects the possibility of analysing discourse as a way of gaining access to participants' psychological states, such as what they know. Instead it seeks to understand how states like knowing are rhetorically managed in discourse as a form of social action. In order to develop my understanding of this approach to discourse analysis, I have used it to examine a transcript of a primary school teacher working on an example of a hypothesis with her Year 4 class. The analysis reveals different ways in which she rhetorically 'underwrites' her actions.

Introduction.

My research questions concern the learning of mathematics by English Additional Language (EAL) learners. How do they learn mathematics with limited linguistic resources in the classroom language? In the course of my first exploratory studies (Barwell, 1999a, 1999b) I increasingly found myself faced with the problem of how this question can be investigated. One of the challenges of working in multilingual, multicultural classrooms is that assumptions about what constitute common understandings must be questioned. How then, can I investigate the learning process?

In this paper I describe how, having started with Vygotsky's (1962) theory of learning, problems arose with its basis in the notion of word-meaning. I then set out my developing interpretation of the "discursive psychology" of Edwards and Potter (1992) (see also Potter and Wetherell, 1987; Edwards, 1997), outlining how their approach addresses some of these difficulties. I go on to use this approach to analyse a sequence of classroom interaction. The transcript does not directly concern EAL learners: the present aim is to explore and make sense of the discursive psychology framework.

Problems with Vygotsky: where is 'word-meaning'?

Vygotsky (1962) developed a theory of learning based on word-meaning as a unit of analysis. He saw word-meaning as the "union of word and thought" (p120), the link between thinking and speech. Vygotsky is ambiguous on the question of the objective or subjective status of word-meanings. He holds that "direct communication between minds is impossible" (p150) and describe word-meanings as 'dynamic' (p124) and as 'evolving' (p83) and presumably, therefore, personal to the speaker, thus implying a subjectivist position. This conception of word-meanings forms the basis of Vygotsky's methodology.

His theory of learning is built around the evolving psychological structures of word-meanings which appear to be displayed by children as they take part in his psychological experiments. This leads him to conclude that “the child’s words and the adult’s words coincide in their referents but not in their meanings” (p73). Based on his theory of the development and complexification of the psychological structures of word-meaning, Vygotsky saw that when an adult uses a word, it is part of a very different structure to that of a child using the same word. In this sense their meanings are different.

Vygotsky’s position leads to problems however. In particular, despite his ostensibly subjectivist view of word-meaning, he treats the analysis of word-meanings unproblematically. How is it possible to know the meanings individuals have for words if “direct communication between minds is impossible” (op. cit.)? While I am still with Vygotsky in his approach to word-meanings as subjective, evolving and a fundamental part of the learning process, he does not offer any way to analyse speech that does not contradict these precepts. This has implications for my own research. How can I explore the intertwined relationship between mathematical learning and the acquisition of English if I cannot gain access to children’s meanings? This issue seems all the more stark when considering children from very different cultural and linguistic backgrounds from each other and from me, the researcher. Discursive psychology offers a way forward, since it explicitly seeks to avoid analysing language as a way of gaining direct access to participants’ minds.

Discursive psychology.

Discursive psychology (Edwards and Potter, 1992; Edwards, 1997) draws on ethnomethodology and conversation analysis to develop a discourse analysis which entails an important shift in focus: instead of taking utterances as evidence of what the speaker thinks or knows, to be tested against objective reality, the analyst examines how reality is constructed in discourse, focusing on the business performed by utterances in context. Thus, for example, an analysis of children’s interaction asks “not *what* do children think but *how* do children think” (Edwards, 1993: 216, original emphasis).

Language is reconceptualised as primarily “a medium of *social action* rather than a code for representing thoughts and ideas...or a grammatical system” (Edwards, 1997: 84, original emphasis). This is not to deny that language does not represent ideas or cannot be analysed grammatically. Rather it is to foreground social action as the primary function of language, which is seen as having evolved through social interaction, and therefore as being structured both by and for social interaction (ibid.).

Edwards and Potter (1992: 28-29) outline five distinctive aspects of the discourse analysis of discursive psychology:

1. Discourse analysis is of naturally occurring talk and prepared texts, rather than talk or text produced for the purposes of analysis, such as in psychological experiments. The interaction of experiments can be analysed as instances of 'experimental talk', but not as a way of gaining access to participants' psychological states.

2. Discourse analysis is concerned with the content of talk and its social organisation, rather than linguistic approaches to structure, for example. This includes seeing talk as sequential and analysing utterances within the sequential context in which they occur, rather than as isolated snippets of the mind (Potter and Wetherell, 1987: 93).

3. Discourse analysis is concerned with action, construction and variability. Different ways of talking are used in different circumstances and for different rhetorical purposes. An example may help here: imagine a child who tells her mother how much she enjoys mathematics at school and then tells a school friend how she loathes the subject. From a cognitivist perspective, this is problematic: what does the child *really* think about mathematics? In discursive psychology such variation is not a problem, since it does not ask whether the child likes mathematics or not, but considers how the idea of 'liking' is used in different ways in different circumstances. For Potter and Wetherell (1987: 67) looking for such variation is an important part of preliminary analysis, since instances of variation may be examined to see what is achieved by varying the way in which things are said.

4. The rhetorical organisation of talk and thought is designed to counter potential alternative versions which may arise. In the invented example above, the child is acting rhetorically by saying different things to different people, perhaps anticipating a lecture from mother on the importance of mathematics, or teasing from the friend for being a swot. As rhetoric serves a purpose, its use is seen as systematic. Analysis therefore proceeds from variability to looking at "the patterning or organization of different versions and the way they are constructed" (Potter and Wetherell, 1987: 67).

5. It is the consideration of such 'cognitive' issues as knowledge, truth, reality or mind in terms of how they are dealt with in discourse, rather than what discourse can tell us about the nature of such states, that leads to this approach being characterised as 'psychological'. Concepts more usually assumed in analysing talk become part of what is analysed: "intentions, goals, mental contents and their intersubjective 'sharing' are analysed as kinds of business that talk attends to, rather than being the analyst's stock assumption concerning what is actually going on" (Edwards, 1997:107). The focus has shifted to looking at how participants use psychological states in interaction. This is not to deny that people have intentions or meanings, but to argue that we can only examine how notions of intention or meaning are employed in interaction as a form of social action.

An initial attempt to apply the discursive psychology framework.

As part of the process of making sense of this approach, I have examined a transcript of a lesson recorded during a Year 4 Numeracy Hour in a small urban primary school. I have been visiting the school regularly since the beginning of 2000. One of my initial preoccupations has been with the technicalities of recording classroom interaction. I have therefore recorded teachers and children during different kinds of activity. The transcript discussed below does not provide much useful data for working on questions about EAL learners. It is nevertheless a rich and interesting sequence. Recorded on a Monday morning at 9.15, it records the introduction to some work on hypotheses. The children are sat on the floor in a corner of the classroom, facing the teacher (T) and a flipchart. T's first remarks introduce the purpose of this part of the lesson (see [1] for transcription conventions):

T: Now then this morning/ you've already had one test/ ^your handwriting test^/ this morning we're going to be doing/ another/ sort of test/ ok?/ I'm going to give you/ **each**/ a mathematical question or a mathematical sentence/ or a mathematical hypothesis/ that I want **you** to go away and **prove**/ alright/...we're going to go through an example first of all/ of how we might approach a problem like this [lines 1-7, underlining highlights significant sections]

Most of the 16 minute sequence is indeed taken up with "going through an example" which the teacher introduces as follows:

T writes on flipchart

- 27 T here's a rule/ somebody read it out for me please/ S4/
 28 S4 when=when you add ten to any number/ the number in
 29 the units' place does not change/

My analysis began by working through the transcript, trying to look at what was done through talk, rather than what was meant, and looking for variation and patterning. Several patterns emerged and one that interested me because it seemed related to the subject of the lesson, that of 'approaching' a 'problem like this', was the way the teacher regularly referred back to the 'rule' (henceforth (*)). For example:

which number/ holds the units' place?/ we've always got to check that one because that's what the question was about/ [lines 118-120]

What is achieved by such references to (*)? By referring back to (*) T *underwrites* her action - in this case checking the units place. By underwriting I mean something like justification but less explicit. In the same way that *warranting* is a way of supporting a claim or statement, I see underwriting as a way of underpinning action. Thus, by referring back to (*) before checking the units place, T is subtly linking the two, using (*) as a rationale for the act of checking. T underwrites her action in a different way just after (*) has been introduced:

T writes on flipchart

- 27 T here's a rule/ somebody read it out for me please/ S4/
 28 S when=when you add ten to any number/ the number in the
 29 4 units' place does not change/
 30 T kay/ any ideas to start with?/ true/ or not true?// S1/

She does not simply ask "true/ or not true?" but underwrites her question-action by first asking "any ideas to start with?". This sets up "true/ or not true?" as 'an idea', an idea, furthermore, that one 'starts with'. The pause between the first and second question is short, a drawing of breath. It does not allow much time for students to come up with any ideas. Instead the teacher is setting out a way of proceeding with the example. Through the 'underwriting' filter, the section which introduces (*) particularly stands out, as it makes use of several forms of underwriting simultaneously:

- 27 T here's a rule/ somebody read it out for me please/ S4/
 28 S4 when=when you add ten to any number/ the number in the
 29 units' place does not change/
 30 T kay/ any ideas to start with?/ true/ or not true?// S1/
 31 S1 not true
 32 T not true/ you don't think it's true why?// why?// you can't
 33 give me an idea if you don't know why you're giving me it
 34 S1 'f I ask you a question you **know** I'm likely to ask you
 35 why/ I usually **do** don't I/ S5
 36 S5 it's true?
 37 T it's **true** **why** d'you think it's true

Here (lines 32-35) the teacher multiply underwrites the question "why?", thereby giving it great emphasis. Firstly she uses 'knowing why' to underwrite the question:

not true/ you don't think it's true why?// why?// you can't give me an idea if you don't know why you're giving me it S1

In the process, S1's lack of response is constructed as 'not knowing why'. The issue is not whether S1 does or does not know: it is the way in which the teacher constructs what S1 knows to underwrite what she is doing. Secondly, she constructs the question as usual, as typical, thereby obliging herself to ask 'why?' again in response to S5 (line 37):

I'm likely to ask you why/ I usually **do** don't I/

Thirdly, she constructs her question and its usuality as something that S1 'knows'. She also constructs S1's response as what he 'thinks'.

you don't think it's true why?// why?// you can't give me an idea if you don't know why you're giving me it S1 'f I ask you a question you know I'm likely to ask you why/ I usually **do** don't I/

Finally, she also underwrites her question by personalising it, constructing it as part of the relationship between her and S1, rather than using a more disembodied form of words:

you can't give me an idea if you don't know why you're giving me it S1 'f I ask you a question you **know** I'm likely to ask you why/ I usually **do** don't I/

It is interesting, however, that although she constructs this as a personal matter between herself and S1, it is said publicly: 'you' is ambiguous - it still speaks to the rest of the class. Furthermore, constructions both of usuality and of what S1 knows are meta-level comments, which therefore have a rhetorical role in making aspects of discourse explicit. T says she usually asks why, and indeed she frequently does. By constructing her question as one that the class 'know' she asks, she pre-empts any future failure to provide a reason. In this way she rhetorically anticipates the rest of the work of going through (*). It lingers, unstated, throughout the sequence, silently underwriting subsequent exchanges, such as when the teacher again asks for reasons (line 37), or when she gives them herself.

Discussion.

By using this approach, it seems to be possible to explore classroom discourse while avoiding the problem of making inferences about participants' psychological states based on what they say. It seems possible to examine how words are used in teaching-and-learning without having to infer the subjective meanings that each participant attaches to the words. Such an analysis is still interpretative in nature and it became apparent in the conference session [2] that this is at the level of the content of what is said, rather than a finer grained analysis of individual words. In this form of discursive psychology interpretation is based on what is publicly available to participants and therefore to the analyst. In the transcript discussed in this paper, underwriting emerges as an effect of the teacher's action-through-words within the recorded interaction as she makes use of language to get things done, such as in this case, 'doing' a hypothesis in a way that also shows her students how they should 'do' hypotheses.

Note.

1. S1, S2... are students. Bold indicates emphasis. / is a pause < 2 secs. // is a pause > 2 secs. ? is for question intonation. ^^ encloses very quiet speech. = for latching (no gap between words).

2. My thanks to the session participants at Loughborough.

References.

- Barwell, R. 1999a: "Plus, And and Add: Addition and English Additional Language Learners of Mathematics". In Bills, E.(Ed): *Proceedings of BSRLM New Researchers Day 12th November 1999*.
- Barwell, R. 1999b: "*The Use of Language in the Learning of Mathematics of Secondary English Additional Language Learners*" Unpublished M.Ed. dissertation: University of Bristol.
- Edwards, 1993: "But What Do Children Really Think?: Discourse Analysis and Conceptual Content in Children's Talk". *Cognition and Instruction* 11(3&4) 207-225.
- Edwards, D. 1997: *Discourse and Cognition*. London: Sage Publications.
- Edwards, D. and Potter, J. 1992: *Discursive Psychology*. London: Sage.
- Potter, J. and Wetherell, M. 1987: *Discourse and Social Psychology: Beyond Attitudes and Behaviour*. London: Sage Publications.
- Vygotsky, L.S. 1962: *Thought and Language*. Cambridge, Mass.: MIT Press.