

Toward a discursive psychology of classroom education

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In this paper I outline an approach to classroom discourse that draws upon recent developments in the study of discourse and rhetoric, including discursive psychology, and upon some related themes in ethnomethodology and conversation analysis. It is an approach which focuses on how discourse works in social interactions, including institutionally situated settings such as school classrooms, and on how it constructs and implicates epistemology: that is, issues of knowledge and reality (Edwards, 1997; Potter, 1996). Discourse is the primary medium in which both participants and researchers construct versions of mind and world. It is through the world-constructing, and mind-constructing nature of discourse that participants (teachers and pupils) perform the public epistemic processes of education. And it is the same publicly available, social-epistemic nature of discourse that enables researchers to examine how they do that, without having to invent specialized methods such as psychological tests and experiments. This social-epistemic nature of discourse is also what gives discourse analysts access to what many people assume to be worlds beyond discourse in particular, the ostensibly internal and external domains of mind and social context.

Education is a public process

The study of educational discourse can be founded on a view of education as a form of culture. Education is a public process. Even the apparently private, internal features of it, such as childrens thinking and learning, or teachers aims and philosophies of educational practice, are features that have to be realized and defined interactionally, if they are to be part of education. This principle applies both to education and to educational research. As far as education itself is concerned, psychological processes such as thoughts, aims and plans are realized, communicated, or otherwise made relevant by participants, as part of the practice and accountability of doing education. Similarly, if psychological processes are to figure in *any* kind of educational research, then they always have to be operationalized in some way, brought into public view via testing, interview, experiment, or observation.

We can apply the same argument to the broader, social and institutional settings within which classroom interactions take place. These are also features that may appear to be outside of, or contextual to, yet causally related to, discourse. They often feature, as psychological processes do, as an *analysts explanatory resource*. Knowing from elsewhere (social theory, lifes experiences, common sense, other research, etc.) what kinds of things schools are, and society is, or what literacy, rationality or science is, the analyst can approach any piece of classroom activity as an example of some larger social pattern, of power asymmetry, subjugation, incipient rational thought or democratization. But the study of classroom discourse need not treat these broader contexts as external, contextual or causally linked, any more than it treats psychological processes as internal, causally linked to talk but analytically beyond its reach. Institutional settings are made relevant by participants as part of their own communicative practices. In class-

room discourse, we can examine how participants attend to the business of doing education, how they hold each other accountable to whatever aims, norms and expectations schooling involves *for them*, and how responsibilities and privileges may be asymmetrically distributed between participants as part of their practices. In other words, whatever external, internal or otherwise constraining context they operate within, whatever relevance context and mental processes may have to the business of education, are matters that we can leave to participants to deal with. Our task as analysts is to observe, make empirical claims and theorize about how they do it.

It is not that teachers and pupils will sit around and talk about social structure, context or mental processes; that would just be more classroom discourse anyway, and certainly not a direct line into society and mind. Rather, it is that features of mind and society will be reproduced in discourse, as part of communicative practices as *participants resources* for interaction and mutual sense making, as resources for accountability, as matters that participants orient to and treat as relevant to what they are doing. Of course, a lot of important educational business may occur in other discursive events that take place, ones that we have not recorded; such as meetings between teachers, between head teachers and school authorities, between parents and teachers, and between teachers and researchers when research plans, permission to make recordings, etc., are being negotiated. These are also amenable to analysis; they are not beyond the study of discourse just because we do not always have them on record. The important point is that the study of educational discourse should not be thought of as merely the study of classroom talk and text, leaving out the study of psychological processes or broader institutional settings. In addressing those very topics, we can link the study of classroom discourse to broader themes in discourse and conversation analysis, where these provide a basis for examining both the psychological (e.g., Edwards, 1991, 1997; Edwards & Potter, 1992) and the institutional (e.g., Drew & Heritage, 1992a; Mehan, 1979, 1991).

Institutional interaction and discourse

The idea that we should treat external context as something that participants themselves make relevant to their actions, does not mean ignoring contexts outside of school discourse. On the contrary, there is much to be learned from studies of discourse in other institutional settings, where those settings are *treated in a similar way*, as brought into relevance by the practices of participants:

the institutionality of an interaction is not determined by its setting. Rather, interaction is institutional insofar as participants institutional or professional identities are somehow made relevant to the work activities in which they are engaged. (Drew & Heritage, 1992b, pp. 3-4)

The study of classroom talk and interaction can be usefully located within a growing conversation-analytical literature on talk in settings such as court rooms, medical encounters, therapy sessions, telephone calls to the emergency services, television news interviews, and various other professional-client (as well as more mundane) encounters. The point here is not only to make generalizations across such settings, or to look for common features, and lose sight of what is special about educational settings, but to help us specify exactly what constitutes each such setting as unique. We will never understand the essential nature of classroom talk by studying classrooms alone. Indeed, there is always at least an implicit comparative claim in any research on classroom talk, when special features such as IRFs (Initiation-Response-Feedback sequences), story telling, cued elicitation, etc., are noticed. It would be useful to make that kind of comparative claim more explicit and empirically grounded.

I can deal only briefly with these other institutional settings here (see the collections in Boden & Zimmerman, 1991; Markov & Foppa, 1991; Drew & Heritage, 1992a), but one striking feature is how much of what appear to be special concerns of educational discourse are in fact addressed and handled, in various similar or contrasting ways, in other discourse contexts. For

example, what we have called the teachers dilemma, of how to make sure that children invent for themselves what is often a ready-made body of knowledge, and childrens collusion in that practice (Edwards & Mercer, 1987, 1988), has parallels with other kinds of ideological dilemmas of authority and democracy (Billig *et al.*, 1988). It is echoed in studies of therapeutic settings where therapists and clients may orient their discourse to a self-actualizing exploration of inner feelings, to the need for even-handedness in dealing with disputations in relationship counselling, or to a non-directive norm for therapy itself (Buttny, 1996; Edwards, 1995). These can be considered forms of *display*, where institutional goals and constraints are constituted as such as part of social interaction and accountability, and function to implicate pupils and clients in the construction of new states of knowledge and interactional outcomes. Indeed, this is the force of the observation that IRF discourse structures are features of educational practice rather than textual linguistics (Drew & Heritage, 1992b; cf. Mercer, this volume).

The more general observation that teachers ask questions to which they know the answers, a familiar feature of classroom talk (Mehan, 1985), relates to phenomena in other institutional settings, where the institutional character of the discourse is shown by its contrast to the norms of mundane conversation. The special role of the teacher, as expert and as authority, is embodied and re-affirmed every time they (and not vice versa) make an evaluation of a pupils response. The withholding of such evaluations by interviewers is a contrasting, but equally role-affirming feature in formal job interviews (Button, 1992), while the normal withholding by pupils of a fourth, counter-evaluating turn, echoes that of patients in medical consultations (Heath, 1992), where it also displays a participants orientation to authority and what will count as legitimate knowledge.

Court rooms, as well as classrooms, are characterized by special turn-taking norms that provide for the display and examination of what is known, and the bases for knowledge claims, where most of the person-to-person talk is explicated and otherwise oriented to the presence of an audience of involved listeners. It is part of the business of a court that observations, descriptions and explanations are publicly produced and made accountable, just as it is the business of education; at least, those are normative considerations that participants may appeal to when reporting, explaining or calling for reports and explanations of things. Similarly, a technical vocabulary is used to mark out the legal status and relevance of any such claims, and to distinguish what is legally relevant from the world of ordinary talk (Atkinson & Drew, 1979), just as classroom discourse may deal with the use and adoption of technical vocabulary. It is not just that analysts can notice the use of a technical vocabulary and see that it is different from everyday descriptions, but that the contrast and relation between those descriptive domains is a concern that participants themselves deal with. By examining talk in non-educational settings, it becomes possible to examine how *any* kind of discourse is organized to construct and display knowledge, whether common sense knowledge, the workings of the Law, therapeutic jargon or the content of an advanced curriculum. And that in turn makes the special nature of pedagogic discourse more visible.

One of the advantages of linking and contrasting educational discourse with other cultural settings, is the insight it gives into the nature of education as a set of culturally embedded practices. It is a pervasive concern of educators and educational researchers, to account for and ameliorate gross social patterns of differential school achievement. When attention focuses on what happens in schools (sometimes to the neglect of more obvious inequalities outside), the issue becomes what is special, difficult, culturally specific and discriminating, etc., about schooling. Some of the boldest statements about school and society have been made not only on the basis of theoretical idealizations of school discourse, but also on the basis of unexplored assumptions about discourse in non-educational settings. In addition to recognizing the significance for educational research of studying discourse in non-pedagogic settings, my other recommendation is the relevance of a discursive study of other kinds of *psychological* concerns, not only learning. This is what we have called discursive psychology.

Discursive psychology

Discursive psychology is a form of discourse analysis applied to psychological issues (Edwards, 1997; Edwards & Potter, 1992; Potter, Edwards & Wetherell, 1993). But is important to define what kind of discourse analysis this is, and to distinguish it from other things called by the same name. It is not the discourse analysis of Sinclair & Coulthard (1975), whose aim was to develop a set of linguistic rules that would extend across sentences, linking utterances that are classified functionally in the manner of speech act theory. Nor is it the same as Foucault's discourse analysis, which identifies historically traceable, ideologically potent organizations of language and metaphor. Discursive psychology's most recent origins lie in social studies of science (Gilbert & Mulkey, 1984); in the extension of this into social psychology (Potter & Wetherell, 1987); and in some collaborative studies with Neil Mercer and David Middleton, inspired by Vygotsky (1987) and Bartlett (1932), of the social and conversational basis of cognitive concerns such as memory (see Middleton & Edwards, 1990) and classroom learning. More recent studies have focused on issues such as causal attribution, event reporting, categorization and script formulations.

Discursive psychology focuses on the details of talk and text, and especially on how issues of knowledge and reality are constructed. In science studies, this has involved the close examination of scientific texts and scientists' talk, where the analyst examines how truth and error are defined and accounted for, and how functional variations occur across different rhetorical settings. It is an attempt to develop a theoretically coherent, empirically grounded and reflexively aware approach to naturally occurring discourse of all kinds, which is capable of addressing epistemic and psychological issues.

Reality and knowledge are dealt with as in ethnomethodology, as participants' concerns (cf. Coulter, 1990; Heritage, 1984; Pollner, 1987). Reality is what participants in any discourse treat as such, rather than what the analyst can see for herself by looking over or outside of participants' practices at the world beyond. This was an essential move in the establishment of science studies, for analysts to distance themselves from any pre-established consensus on scientific truth. Similarly, psychological processes, including states of knowledge and learning, are also participants' concerns. They are the kinds of descriptions, implications and explanatory resources that participants themselves construct and use, or otherwise orient to in their discourse.

This appeal to participants' categories is an analytical focus on what people treat as *interactionally relevant*. It is not a psychological claim, about peoples' context-free cognitive or perceptual schemata, but rather, an analytical procedure whereby we examine how participants in any discourse will invoke, construct, make relevant, or take as given, any particular version of external reality or mental contents. In all sorts of discourse, not only education, these are precisely the kinds of concerns that participants are dealing with; with what the world is like, what happened in some event, what they know about it, and how it can be explained. Classroom interaction is like scientific texts in this respect, and like court room dialogue, psychotherapy, and even mundane conversation; they are all discourses in which participants are likely to be dealing with truth and error, cognition and reality, the relevance of institutional goals and constraints, and the pursuit (or careful avoidance) of arguments, disputes and resolutions.

The importance of studying these things through an analysis of discourse, is that all these versions of world and mind are sensitive to, or conditional upon, *the occasion of their production*. This is a feature that is emphasized in many approaches to situated discourse, especially in conversation analytic studies (e.g., Atkinson & Heritage, 1984; Schegloff, 1972, 1989), but also in rhetoric (Billig *et al.*, 1988; Simons, 1989), and in science studies (Gilbert & Mulkey, 1984). And it is an essential principle of discursive psychology. Descriptions and explanations are interactionally sensitive, in that they occur always in some interactional context, and are always specific, always an actual version from amongst potentially many possible versions, performing

whatever interactional and rhetorical business is at hand. The principle of *rhetorical organization* points to how versions of things attend to alternatives, to other possible *competing* descriptions and explanations, whether or not there is some active or explicit dispute going on. Even scientific texts are rhetorically, and not only empirically organized as descriptions of the world (Gusfield, 1976; McCloskey, 1985; Myers, 1990), while scientists talk varies in how truth, error and their explanation are formulated, according to how the speaker is rhetorically positioned (Gilbert & Mulkay, 1984; Latour, 1987).

In summary, the major features of a discursive psychology of classroom interaction includes the following closely related themes:

1. *Public display*. This is the ethnomethodological principle, that social interactions, including discourse, are produced by participants so as to be intelligible to participants for the actions that they are:

the intersubjective intelligibility of actions ultimately rests on a symmetry between the production of actions on the one hand and their recognition on the other... this symmetry of method is both assumed and achieved by the actors (Heritage, 1984, p. 179; cf. Garfinkel, 1967, p. 1)

It is this same process, of publicly produced intersubjectivity, and its turn-by-turn production and repair, that makes interaction possible (i.e., that *constitutes* interaction¹), and which makes its *analysis* possible. The fact that education is acted out publicly and recognizably by and for participants, as an essential part of educational practice, is also what makes it possible for us to record and analyse it. It is not that we need some other sort of technical apparatus, beyond observation and analysis, that participants do not possess.

2. *Sequential occasioning*. This is the conversation analytical principle, that all talk, and by extension all text, is produced sequentially in the context of other talk or text, such that its significance is inherently situated and interactionally produced. Again, this is not merely something technical about talk that analysts can notice. Participants themselves orient to talk and text in this way, in terms of its sequential occurrence and design. Descriptions, explanations, versions of events are constructed for the context of their occurrence, and treated as relevant to that context, as occasioned. This applies equally to occasions when people offer generalizations that are supposed to be context free, in conversations as well as in classrooms and scientific texts; those are themselves inevitably examples of discourse *in situ*, in talk, in a textbook, or in the way in which a textbook is used as a resource in classroom discourse.

3. *Rhetorical design*. When we examine talk and text, in order to see how shared understandings are managed and displayed (Edwards & Mercer, 1987; Edwards & Middleton, 1986), this does not mean that people are trying to agree with each other all the time, nor that they are trying to disagree. It is that this is a primary interactional concern. Participants display a pervasive interactional concern with what each person thinks or knows or claims in relation to what other people think or know or claim. The rhetorical design of talk and text is this pervasive concern not only with sameness and difference, but with *alternative* possibilities, contrasting versions, alternative understandings, and the need for warrants, justifications and argument when shared perspectives are not assumed. In Billigs (1987) rhetorical psychology, argumentation is not only a pervasive and indefinitely extendible feature of discourse, but also of thinking. As an approach to thinking, it contrasts with the perceptually based, problem-solving and information-processing metaphors that dominate cognitive and developmental psychology (see Edwards, 1997; Edwards *et al.*, 1992).

4. *Participants categories*. This is the principle that we are trying to identify the conceptions of mind and reality that participants themselves use, as resources in interaction. The world outside of discourse, and the psychological world inside peoples heads, are just the things that people are dealing with discursively. These are what the discourse may be about, and our task is to see how those worlds are constructed and made relevant interactionally. This is clearly applica-

ble to educational settings, in that teachers and children are dealing often very overtly with issues of reality and its understanding, though it is a pervasive concern well beyond pedagogy (Pollner, 1987; Potter, 1996; Wooffitt, 1992). Discursive psychology pursues those themes through the examination of how they are dealt with in talk and text, as part of the sequentially organized, public display of doing education in the classroom.

5. *Accountability*. It is also a pervasive feature of discourse and social interaction, that participants treat themselves and each other as accountable for their talk, their thoughts and their actions. Versions of events routinely attend to issues of motive and responsibility, to situational constraints, to reasons, excuses and justifications (Edwards & Potter, 1993). Classroom teaching and learning, for example, may be performed in such a way that it is accountable to a particular theory or philosophy (and therefore morality) of education (Edwards & Mercer, 1987); while the production of results in a classroom science experiment will be oriented to how they were properly or improperly achieved (*ibid.*). Accountability, like rhetorical design and public display, is therefore not only a feature of interaction that we can examine, but also an analytical lever that we can use to get at participants' constructions of mind and reality. Participants' interactional categories are revealed in what they treat as accountable, as requiring explanation, excuse, demonstration, a change of mind, or further information. This applies as much to classroom talk as it does to talk in other settings such as courtrooms (Atkinson & Heritage, 1979), laboratories, counselling interviews and mundane conversation. We recognize classroom discourse, as distinct from court room discourse, not only through the topics that people are discussing, but through the kinds of knowledge issues on which participants treat each other as accountable.

It must be clear from this brief treatment of institutional interaction and discursive psychology, that neither of these perspectives are specially dedicated to the study of education. My aim has been to establish the relevance of those fields for studying educational discourse, and for the importance to educational research of a broad understanding of the workings of discourse in general, as the major medium of institutional and everyday interaction, and of social epistemology. In the next section we turn to some specific topics of classroom discourse.

Classroom discourse

It is now possible to specify a wide range of topics for research and application, involving classroom discourse, and say how we would approach them. These include all issues of knowledge and reality; issues concerning discourse media (the status and functions of talk and text; relations between language and other representational media); and social relations issues such as teacher-child interaction, power asymmetries, the invocation of out-of-school experience and institutional constraints, and the interactional relevance of pedagogic philosophies. We can predict at the outset that those will not remain separate categories, since the essence of discursive psychology is to examine their relationships that is, the discursive and interactional basis of epistemological concerns. Let us take two topics for further consideration: (1) the status of talk and text, and (2) the relationship between perceptual appearance, knowledge and reality.

Talk and Text

Pedagogic research has sometimes been concerned with discourse not only as an interactional medium for studying pedagogic practices, but as an object of study in itself. Topics include discourse structures, the study of literacy and textual representations, and the important notion of voices (Wertsch, 1991). Discursive psychology would approach these as possible participants' categories, that is, as categories or distinctions that participants may use interactionally. There are two empirical advantages of this. First, it sets out a range of discourse phenomena that we can study, which are the occasions when participants *orient to* something *as* what somebody else has said, or as what it says in the textbook, or what is worth writing into a record

of events. It points us to the data with a restricted but disciplined analytical frame, of looking to see what kind of status text and the talk of others have for participants, how they use such categories interactionally, how these can be (in context) a way of warranting, authorizing, validating or discounting something, and how they may be used rhetorically and constructively. That is to say, for something to be quoted, it does not have to have been said; quotation is a device, a form of display, not merely a recycling of talk that we might check for the accuracy of its reproduction, or for how it has been transformed (cf. Wooffitt, 1992, where various forms of direct and indirect quotation are shown to operate *for the occasion of their production*, as accuracy warranting devices, speaker validating devices, and in other more subtle ways, rather than as actual textual linkages).

Second, it avoids some of the analytical problems of alternative approaches, where the analysts conception of the nature and functions of text, or of the role of other peoples words in talk, are based on idealized and decontextualized assumptions about literacy (Street, 1984) and the forms of authority and rationality it encodes; or on the analysts need to check back through the transcript, consult other historical or ethnographic materials, or to imagine, where some currently active term or expression might have come from. This is the difference between treating talk and text as having an *objective* status that the analyst can check on or theorize about, and its having an *intersubjective* status for participants. If we think of quotations (or other textual forms) as having an objective status, then we run into the difficulties of deciding when and how far a particular piece of discourse *counts as* something with a history, especially when it transforms in some way what we take to be its source. The more ambitious and pervasive our theory of voices, or of literacy effects, the less possible it is to specify empirically when the theory is relevant, and how it is relevant, or not relevant, to any particular piece of discourse. To treat the issue as a participants concern, with all that that implies, is to make it empirically manageable, and theoretically coherent, even if we lose some of the scope of more ambitious theorizing. What we do is examine talk to see when and how participants orient to the status of talk as coming from somewhere else, as being recycled or quoted (e.g., Holt, 1996), or altered, or recorded or written. The status and functions of talk and text are doubtlessly amongst the prime concerns of formal schooling.

An example of a brief empirical study that explores some of these issues can be found in Edwards (1993a). This is a study of a kindergarten class, in which the teacher elicits from the children what they have learned about the principles of plant growth, from an earlier visit to a greenhouse. The lesson includes a variety of text-and-talk phenomena, including the childrens elicited memories of what they were told by the greenhouse gardener, and how these are sanctioned and shaped into acceptable and ordered form by the teacher; the organization of turns at talk such that individual contributions are taken from specific children, while those who have made contributions already are discouraged; the teachers sanctioning of children telling things to other children; childrens efforts to claim as their own, contributions made by others; and the teachers production of a written record, our book about plants, and its gate-keeping and constructive relation to what the children actually say. In general, childrens contributions to each others learning may be encouraged or sanctioned, incorporated or contrasted with the teachers role as legitimate informant; again, it is only through careful empirical analysis that we can sort out what exactly participants are doing when these various options are chosen.

I am not suggesting that this is a radically new idea, to examine talk and text as categories of interactional practices. It is already a feature of many good studies, to include examinations of situated practices, such as Shirley Brice Heaths (1983) and Elsie Rockwells (1991) ethnographic work on the oral signification of texts. What I am suggesting is that it is more than a way of sometimes grounding theory in particular sorts of ethnographic data. There are a set of coherent principles that I have outlined briefly here, which provide a basis for these kinds of analysis within the scope of an overall conception of how discourse and social interaction generally work, in all kinds of settings, and how they can be analysed in a disciplined way.

Appearance and reality

The relations between perceptual experience, or the appearance of things, on the one hand, and their real, essential or properly understood nature on the other, has been a fundamental theme of Western philosophy and science at least since Plato. It is probably a pervasive theme in all or most cultures, and it is certainly a key issue for educational practice, for cognitive theory, and for everyday discourse (Pollner, 1987). Much of cognitive and Piagetian psychology is founded on the notion that we learn about the world on the basis of perceptual abstraction, where invariant features of the world are schematized through direct experience, through the coordination of perception and action. For philosophers and cognitive scientists, this is an analysts concern. Irrespective of what people, infants and animals might think or say about what they are doing, the analyst theorizes and studies the relations between perception and knowledge. Language itself, or at least its semantic and metaphoric properties, may also be explained as founded in bodily experience (Lakoff, 1987; but see Edwards, 1991, 1997).

Discursive psychology does not set out to counter or disprove those ideas, by joining in a debate about appearance and reality. Rather, we set aside the issue as a philosophers or a psychologists concern, and approach it empirically as a participants concern. The question becomes, not what is the true relation between experience and knowledge, but how do participants in discourse deal with it? Does it figure as part of their practices, as an interactionally relevant category in the description and explanation of events? And by examining it in that way, can we study appearance-reality issues as a feature of pedagogic practices?² Of course, having started to think of those issues in this way, we invariably come back to questioning the sense of trying to resolve them in some definitive, realistic sense (cf. Edwards, Ashmore & Potter, 1995; Potter, 1996).

In both scientific and everyday discourse, as in philosophy, there is an interesting duality in the relation between perceptual experience and our understanding of the world. Experience can be a powerful warrant for the way the world really is, but also a matter of superficial appearances that have to be transcended or discounted, or statistically averaged, in order to appreciate a reality *behind* appearances. Piagets studies of sensori-motor schematic operations, and the classic conservation experiments, and also Bruners language-based reinterpretation of them, deal directly with this issue, of how children can be fooled by, but learn to see beyond, appearances. Theories and disputes in science can include complex relations between appearances and underlying processes, while ways of accounting for error include appeals to findings as artefactual, discountable or misleading. Pollner (1987) demonstrates the workings of common sense accounts of reality disjunctures, where psychological categories such as misperceptions, hallucinations, false beliefs, etc., are introduced in order to preserve the reality of a common world despite superficial disagreements about its nature (see also Smith, 1978; Wooffitt, 1992). So we can approach educational discourse armed with these kinds of issues and analytical concerns, and look for how teachers and children manage appearance-reality relations in their discourse, and thereby, how education gets done.

There is not space here for an extended treatment of this issue, but there is some related discussion in the book *Common Knowledge* (Edwards & Mercer, 1987, 1988). Certainly it is a live pedagogic issue. In Extract 1, the teacher (Mrs. A) and pupils*are filling in some words in a crossword puzzle³.

Extract 1 (PG/FH, Crossword, p. 7-9)

- 1 Carter: Thats four across, Mrs. A.
- 2 Teacher: (...) It looks like a four Carter,
- 3 but its really a one.
- 4 (...)
- 5 ((several minutes later))
- 6 Teacher: You put a letter, in, each, box.

- 7 Bobby: Even the one with the four?
 8 ((*other children shout, e.g., what do you mean?*))
 9 Bobby: Even the one with the four, [Mrs. A?]
 10 Teacher: [Wait a sec.]
 11 If you all yell at me Im going to get awfully confused.
 12 Josh: Even the one, with the, umm, four?
 13 Teacher: Yes. Now it looks like a four,
 14 but I keep telling you its a one.

Even at kindergarten, classroom activities may involve having to deal with distinctions between what things look like, and what they really are. In this case, it is a distinction drawn by the teacher. The grounds for the teachers ruling, that the figure in question is a 1, not a 4, are not clear, except that she presents herself as, and is taken to be, capable of making that ruling. This in turn could hinge upon her status as teacher, or else as the person who, having drawn the crossword, is entitled (as anyone would be) to say what her intentions were in drawing it. However, being the author or creator of something is not necessarily sufficient grounds for saying what it actually is; it is one of a variety of ways of doing that, and it may not be successful. There are various conversation analytic and ethnomethodological studies which deal with common sense practices in which claims to knowledge and its ownership are made and interactionally accomplished (e.g., Sacks, 1992; Sharrock, 1974; Perkyll & Silverman, 1991), and of course this brings us back to the issue of voices and authority. Claims to experiential knowledge, and the ontological status of what is known, are not simply granted by experience. And where such over-rulings happen, and in exactly the ways that they happen, it is possible to see the workings of authority, of pedagogy, of counselling and therapy, of persuasion, or whatever other forms of social-epistemological construction are going on. Educational settings are not unique contexts in which direct experience is a to-be-accomplished, and refutable, basis for knowing something.

The pendulum lessons, partially reported in *Common Knowledge*, provide a rich data source for the pedagogic negotiation of the status of direct experience⁴. In Extract 2, the teacher asks the children to pay careful attention to what she is doing.

Extract 2 (DE/NM, Pendulum 1, p. 7)

- 1 Teacher: (...) You tell me when you think
 2 we have made a complete swing.
 3 Can you see Karen?
 4 Well watch carefully now.
 5 Im holding it out.
 6 You tell me when you think its
 7 made a complete swing.
 8 ((*T releases the pendulum bob*))
 9 Karen: Now. ((*as the bob passes the upright for the 2nd time*))
 10 Teacher: Now. Thats right. ((*catching the bob*))
 11 Shall we try it again?
 12 ((*T lets the pendulum swing again*))
 13 Children: Now.
 14 Teacher: Good.
 15 I find that a bit difficult to see actually.
 16 What would make it easier for me to see
 17 when the bob passes that point again?
 18 ((*T moving finger up & down centre of pendulums support*))
 19 Child: A line.
 20 Teacher: If you put a mark on it. Right.

The teacher defines visual experience as the key; careful observation (lines 3-4) is the basis for what to think (line 6). But already, with even so simple and unproblematic an instance, there is uncertainty. Another trial is called for (line 11), and then further help is required in the form of some instrumentation; a line is to be drawn on the pendulums support to help them see more reliably (lines 15-20) the invention of what Bruner (1964) called a cultural amplifier, and a nice example of the function of scientific instrumentation. Experience, aided by careful, repeated, and instrumentally assisted observation (things are getting a little complicated, to be sure), is the key to grasping reality. But what do we call it? A line says one child (line 19), preserving the linear motion of the teachers cueing gesture; a mark, the teacher renames it. Again, a small disruption in how reality writes itself directly via the senses upon the mind; some descriptive terms may be preferred to others, may mean something different, and indeed the jargon of science is an essential part of its epistemic status. The teacher in these lessons often revises childrens descriptions, preferring mass to weight, for instance.

At the same time, bases for discounting false experiences are set up; if careful attention is necessary, it becomes possible that we might not have paid careful enough attention. If instrumentation is necessary, then the instrumentation might be wrongly calibrated, etc. The pursuit of accuracy and reliability paradoxically introduces more scope for inscription errors, for a decoupling of reality from its direct and unproblematic apprehension, just as it does in scientific texts and laboratory practices (Latour & Woolgar, 1986; Woolgar, 1988), and in the methodologies of psychological and educational research. The children go on to use stop-watches, and deal with cases where the watches may not have been operated properly, such that false (or unexpected) measurements might have to be discounted³. But we are getting ahead of ourselves; we are still in the realm of reliable, if somewhat delicate, experience. In Extract 3, David and Sharon start to discuss reality and illusion when anticipating and making informal, preliminary checks on whether the pendulum will swing faster with a shorter string. It is useful to know here, as the teacher does, that shortening the string is indeed, officially and according to the textbook, the one thing that will make it swing faster.

Extract 3 (DE/NM, Pendulum 1, p. 20-21)

- 1 David: I reckon itll go faster as well
- 2 cause say when I done there
- 3 *((D holds the string against the support, half way down its length))*
- 4 Teacher: Yes. You think it goes faster?
- 5 *((D releases the bob))*
- 6 David: I think it goes much faster.
- 7 Sharon: Yes but you havent held it out right to here.
- 8 *((S is off-screen, presumably holding the bob further out))*
- 9 Teacher: Like you were doing before.
- 10 David: Its not going to be accurate anyway
- 11 because Im moving.
- 12 *((D moving one hand up & down the pendulum))*
- 13 Teacher: Because *you're* moving?
- 14 David: Yes.
- 15 Teacher: Yes.

David and Sharon, together with the other children, are in the middle of a hypothesis-generation sequence, in which the teacher is getting them to suggest hypotheses about which variables (weight of the bob, length of the string, starting angle) will affect the pendulums period, and how (faster or slower; see Edwards & Mercer, 1987, 1988). Later they go on to test out their hypotheses using repeated measurements and stop-watch timings. In Extract 3, rather than simply guessing or imagining, David performs a quick physical check by holding the string

half way down its length and releasing it, which, at least to the analysts eye, results in a very noticeable increase in speed (roughly double).

One interesting discursive phenomenon is how this observation is treated as ambiguous, or even as not having been demonstrated at all, as the children go on to hypothesize and test empirically what will happen, as if this had not been already clearly established⁶. David himself treats the faster swing as what he reckons will happen (Extract 3, line 1), even though he and another child have already performed the quick string-shortening trick several times before this extract begins. Indeed, he and the teacher (lines 4 and 6) continue to claim the quicker movement as what David thinks happens even when they are watching it happen, and David then defines the entire observation as potentially unreliable (lines 10-11) due to his own movement. The epistemic status of the quick demonstration is provided by its position within the lessons discursive organization; they are doing hypothesis generation, eliciting likely and unlikely hypotheses and predictions. Only later are they supposed to be making observations, seeing what actually happens.

Finally in Extract 4, in the hypothesis *testing* phase of the lesson, Jonathan and the teacher confront the problem of dealing with observations that, despite being produced systematically by instruments designed to ensure increased accuracy, do not appear to make sense. Jonathan and Lucy have been varying the weight (mass) of the bob, by attaching different numbers of metal washers to the end of the string.

Extract 4 (DE/NM, Pendulum 1, p. 37)

- 1 Teacher: How are *you* doing? Are you all right?
- 2 Jonathan: Weve done three of them,
- 3 that one that one that one with one washer,
- 4 with two washers
- 5 and its exactly the same at that point there
- 6 and at that point there.
- 7 Teacher: Exactly the same at those two points?
- 8 Jonathan: Yeh.
- 9 Teacher: What about this one is it slower?
- 10 Jonathan: (*inaudible*)
- 11 Teacher: You can always recheck them.
- 12 Do you think it might be wrong because its that time?
- 13 Jonathan: I think this one might be wrong
- 14 (*(J pointing to one of the recorded numbers)*)
- 15 Teacher: Do you?
- 16 Jonathan: I think it may not be [quite]
- 17 Teacher: [Whats] the only way to
- 18 find out [whether that]
- 19 Lucy: [Do it again.] (*(L smiling)*)
- 20 Teacher: Do it again.

As physics and the teacher would predict, Jonathan and Lucy are finding (lines 2-8) that the different weights have not resulted in different periods of swing. The teacher then points to an anomalous result (line 9), and suggests that it might be slower. Jonathans response is muted and inaudible (line 10), but the teachers uptake of it (lines 11-12), and Jonathans continuation (lines 13-16) signal that he thinks something is wrong. The teacher has already cued the solution (line 11), and Lucy obliges with a reformulation of it, do it again. The solution is to perform another empirical trial. But the interesting point is the notion that something was wrong in the first place. And this is not something produced by noticing that, say, the stop-watch was broken. It was that the result was wrong; the measured time did not look right (lines 12-16). Rather than empirical evidence telling us what to think, we have a case of what we think telling

us that the evidence is wrong (cf. Feyerabend, 1975; Sacks, 1992; Woolgar, 1988). And yet the proper epistemic order is secured by some more empiricism; we can do it again, and get it right this time.

We are dealing here with only a few, very specific examples of how relations between experience, cognition and reality are discursively constructed. Classroom lessons are full of this kind of thing, and indeed even this one lesson contains rich and extended sequences in which measured differences in pendulum timings are variably treated either as significant and telling us about the nature of pendulums, or else as artefacts of measurement contained within margins of error (see *Common Knowledge*, chapter 6). Examples from other lessons include ones where the childrens own productions, such as lines etched into a piece of pottery, are subject to alternative descriptions of what they represent, where the authors voice (the child who produced the lines) may be overridden by the teacher (extract 5, lines 8-10):

Extract 5 (DE/NM, Claypot 1, p. 18)

- 1 Teacher: My goodness, this looks like a Red Indian picture.
- 2 Sarah: Mm.
- 3 Teacher: Like little birds flying and things.
- 4 Uh, what are they?
- 5 Sarah: Three bears.
- 6 Teacher: Three bears.
- 7 Sarah: Yes.
- 8 Teacher: Are you sure its not three little sisters,
- 9 not uh, three little, little girls
- 10 I think it is.
- 11 Going to give this to your little sister,
- 12 or are you going to keep it yourself?

It is not that teachers simply define and override childrens perceptions and intentions. The relations are more complex than that, as we would expect given the ambiguity of reality and perceptual experience seen in the pendulum lessons. In classroom discourse, as elsewhere, the world *does* sometimes speak directly to the senses, and the senses to the mind, although our perceptions do distort the world, and our expectations are not always confirmed, though unexpected findings can point to errors in perceptions, and so on. It is not that we can replace one generalized theory of mind and reality with another, but that we have to examine how all of that variation works within actual discursive practices. The teacher who tells Sarah what her shapes mean can also, immediately afterwards, treat that same process ironically, as she does with another childs etchings. In Extract 6, the irony lies not only in the teachers pursuit of an unlikely suggestion in the face of Pauls resistance, but is confirmed interactionally by the childrens laughter in line 8.

Extract 6 (DE/NM, Claypot 1, p. 19)

- 1 Teacher: I definitely think this is a bit of Egyptian.
- 2 This is, hieroglyphics
- 3 does it say something?
- 4 Paul: No.
- 5 Teacher: Are you sure? Bet it does Paul.
- 6 Paul: Doesnt.
- 7 Teacher: Bet if you tried hard you could read it.
- 8 ((Children laugh))

The essential point is both a pedagogic and a discursive-psychological one. It is not the case that the external world, perceptual experience and the inner world of thought and cognition, are separate from, contextual to, or causally related to the world of discourse. Nor does exper-

rience come with a built-in epistemic status that is prior to its description. The nature of the world, the relevance of context, and the mental domain by which we appear to apprehend all of that, are precisely what participants are dealing with in their discourse. And it is a variable, constructive, socially organized process. Discursive psychology does not dispute philosophically or realistically the relations between mind and reality, but rather, takes the public practices of situated discourse as its object, and examines how those mind-world distinctions, and their relationship, figure in activities such as classroom education. That is, it examines them as participants concerns.

Conclusion

This overview of discursive psychology, and of situated action approaches to institutional talk, has been brief but wide ranging, while the discussion of data fragments has been brief but narrow in scope. Nevertheless, what I hope to have done is to show how these approaches are relevant to any study of classroom discourse, and to the concerns of educators and other participants, as well as academics interested in discourse. Discourse analysis is not a matter of taking chunks of talk and making interpretative comments about them. It is a disciplined and principled approach to talk and text, which treats matters such as social relations, contextual relevance, reality and mind, as topics rather than as explanatory resources. As topics for the analyst, the analytical move is to see how participants themselves construct and use those categories as part of their discursive practices.

The essential analytical move can be expressed in a simple slogan: *topicalize the problem*. That is to say, where you have a difficult, possibly intractable analysts issue, try turning it into a topic for study, a possible feature of participants discursive practices that can be examined empirically. So, if your concern is psychological, and you are interested in what it is that children actually think or learn from their classroom experiences, try seeing whether and how this arises as a practical issue for participants (who may include teachers, examiners, and even educational psychologists), in their discourse (see, for example, Edwards, 1993b). Similarly, we can examine as potential participants concerns, issues such as the relations between experience and reality, between out-of-school experiences and classroom learning, the status of school as an institutional constraint on classroom practices, and such classroom distinctions as those between narrative and analytical thought, or distinctions between a child's own thoughts and those borrowed, learned or stolen from others.

Ethnographic descriptions of contexts and circumstances, and of classroom activities, can be subjected to the same inquiry: whose descriptions are they? Are they the kinds of descriptions that participants use as part of their practices? If so, when and how do they occur? How do they vary across discursive contexts? How do they function rhetorically and interactionally as parts of participants accountability for their involvement, rather than as straightforward pictures of reality or perception? We are not restricted to observing classroom interactions for all of this; we can use interviews, tests, experiments, or whatever. But in each case, those alternative methods must also be seen as practical social occasions, as speech events, which construct their own reality and outcomes just as classroom lessons do. They are never simply methods for finding out what is already there. But since we are presumably most interested in classroom learning, in participants practices more than our own, the favourite source of data is always likely to be observational recordings.

There is, of course, a double irony in all of this⁷. We take seriously our own empiricism, taking participants practices as empirically available to discourse analysis, while treating ironically (i.e., deconstructing or problematizing) participants own empiricism. When participants do it, appealing to the nature of the observed world emerges as a situated, variable, descriptively constructed and rhetorically designed practice. When we do it, we call it discourse analysis and recommend everyone to pay careful attention to the details of the transcript. But our

own texts are subject to the same deconstruction. An analysis of the analysis must surely reveal that the transcript is selected and presented as such, as a slice of reality (even shorn of the usual technical apparatus of transcription symbols), placed sequentially for its effect, constructed for its sense, rhetorically designed for the display of empirical accuracy that any bit of data always affords, and for the argument it enables us (me) to sustain against alternative approaches to cognition, reality, language and education. So what? Hoist by our own petard?⁸. Destroyed by our own methods? Well, no more than they destroy anybody else. If all discourse works constructively in these ways, then our own discourse should work in similar ways too, and be subject to the same criteria of adequacy. There is no escape from that merely by ignoring it. So our own textual practices are included in the enterprise, as they should be. Rather than speaking against us, that capacity for reflexivity, for including our own descriptive practices within the scope of discourse analysis, can be claimed as another advantage of treating discourse in this way.

Notes

1. The term 'display' is not quite right, in that it suggests something already existing, which is then presented. It is difficult to convey in ordinary terms the sense of actions being made meaningful interactionally, in and for the occasion of their production.
2. The reader will know the answer to this question already, on the grounds that I would not raise it here if I did not think I could address it in discursive terms. But there is a more important point to make on this topic, concerning analytical procedure and the rhetorical design of journal articles. The structure of my argument in this paper, and this is a frequent feature of constructivist arguments, is to present an alternative approach to familiar topics. This is how we accomplish the relevance of discursive psychology to psychology and education. But the analytic procedure is not to start with conventional categories and then see if they can be found in discourse. Rather, we examine discourse and notice that some of the themes of standard approaches are recognizably being worked out there, though often in very different ways, just as plenty of phenomena are evident that are not conventionally addressed. The appearance-knowledge-reality issue is one of the former, recognizable-but-different sort.
3. This extract is from a Washington DC kindergarten class reported by Griffin and Humphrey (1978). The code in brackets at the top of each extract gives the source, the name of the lesson and the page numbers in the full transcript). Square brackets mark simultaneous speech of two persons, while comments in double round brackets include the observer's ethnographic notes taken from video recordings. In this and the following extracts, transcription symbols have been minimized in order to facilitate translation and understanding in both Spanish and English, and for readers not familiar with the technicalities of transcription. Nevertheless, it should be noted that some of the activities performed in classroom discourse would be revealed only with a more descriptively sensitive and detailed transcription.
4. These data are from a British science class with 9-year-olds. For further details see Edwards & Mercer (1987).
5. See the detailed discussion of measurement, accuracy and 'empiricism', in *Common Knowledge*, chapter 6.
6. It is also interesting how I, the analyst, invoke what actually happened, based on my perception of the video recording, and recruit the reader to this common sense alternative notion that the increased rate of swing was easily perceivable. However, it is not my aim here to privilege this alternative, or to claim that my grounds for knowledge are better than, or different from David's. Rather, I am drawing attention to the possibility of an alternative common sense description, an alternative way of dealing with the swinging pendulum and with the status of an observation. It is a feature of participants' practices, and also of analysis, that where alternative descriptions are possible (i.e., all of the time), actual descriptions can be seen as contrasting to those alternatives, and thereby as performing whatever situated, interactionally oriented reality-constructing business they perform. For a much more thorough and engaging treatment of this sort of issue, see Ashmore (1993).
7. Apologies to Malcolm Ashmore (1989), for yet another coda on reflexivity. My intention, of course, if I can author such a thing, is to create and ironize a new literary form, the reflexivity coda and associated footnote.
8. This expression is dimly remembered from *Hamlet*, and means something like killed by our own bomb. It is a vivid warning for would-be anarchists, relativists, constructivists, discourse analysts, etc.

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