Common Knowledge the Development of Understanding in the Classroom

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Editorial Reviews

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Book Description

This book is about education as a communicative process, about how knowledge is presented, received, controlled, understood and misunderstood by teachers and children in the classroom. --*This text refers to the Paperback edition*

Edwards, Derek & Mercer, Neil, 1987, *Common Knowledge: The Development of Understanding in the Classroom*. New York: Falmer Press.

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"We are interested in what knowledge means to people, and in how and to what extent it becomes part of their common knowledge, their joint understanding" (p.1).

"we felt that any approach to code and categorize the phenomena that we were interested in would subvert one of the most important points we wished to make. Coding and counting schemes rely on the assumption that particular categories of speech mean the same thing each time they occur…things said at the ends of lessons carry a wealth of shared and implicit understanding, established during the lesson, that they could not carry at the start. And, since the raw data of speech are lost in the

process of coding, it then becomes impossible to reconstruct the way in which that 'common knowledge' was created" (p. 5).

"the establishment of mutual understanding is an everyday matter; but so too is the creation of misunderstanding" (p. 6).

"there are some basic elements of the process of establishing a shared understanding, of building an ever-expanding foundation of shared knowledge which will carry the weight of future discourse. These are the offering of new information, reference to existing past experience, requests for information and tests or 'checks' on the validity of interpretations of information offered" (p. 6).

"but as a self-contained approach to the study of classroom communication, of what teachers and pupils say, formal discourse analysis has its limitations. Because if was devised to reveal linguistic structures, not educational or cognitive processes, it deals most explicitly with the form of what is said, rather than with its content. So those matters quite rightly identified by Stubbs as important – the spoken presentation of curriculum content as 'bits of knowledge' 'items of knowledge' or 'topics' – actually lie outside the domain of discourse analysis and its underlying theory. For psychologists interested in cognitive and educational processes, and particularly those whose research incorporates a developmental perspective, it is arguably discourse analysis which 'scratches the surface'.
Our concern is more with content than with form. That is, we are interested in what people say to each other, what they talk about, what words they use, what understandings they convey, and with the problematics of how these understandings are established and built upon as the discourse proceeds. This means that we are not concerned with the discourse itself, but also with those not-linguistic activities and settings that are the context within which the discourse takes place….it may be thought that a concern with the content of talk rather than with its form, and with interpreting people's meanings rather than coding their turns at speaking, is an altogether less rigorous and objective way of dealing with discourse. We offer three justifications:

1. We have a little choice in the matter. Formal discourse analysis is not designed to answer the questions that we want to ask. We have to be concerned with content, meaning and the context if we are to examine how (p. 10) common knowledge is established, rather than how people manage to engage in sequential dialogue.
2. …our analyses will be accountable in terms of data , which the reader can examine with us. One of the disadvantages of some formal procedures of analyzing discourse is that one is often presented with a coded and/or quantified analysis as a fait accompli, the original discourse having been lost at some earlier stage in the process…
3. It is also important to realize that discourse analysis, and other formal approaches to natural conversation, are not simply alternatives to more qualitative treatments that deal with content and meaning. Interpreting what people mean by what they say, and what they are trying to achieve in what they say, and what assumptions they appear to be operating with, are in any case all

> prerequisite to making a formal analysis….discourse analysis necessarily proceeds on the basis of the investigator's interpretations of what is said….since some sort of interpretative analysis…is necessary to the formal analysis of conversation, then there is clearly no inherent gain in objectivity or rigor (though there may be other gains) achieved by taking that analysis further and building upon it some system of codings and categories" (p. 11).

"Mathematics begins as a relationship between discourse and practical actions: the teacher counts the number of objects aloud as she physically groups the objects together. She then moves on the use of numbers without naming the objects, effectively desebmedding the arithmetic in discourse, while the physical objects and functions have now become its unspoken context. Finally, Walkerdine notes how the process is taken further, into written representation: the teacher goes on to write out the sum. The point to note here is that the acquisition of mathematical concepts is presented not simply as a translation of action into numbers, but as a process of being guided by an adult into a particular form of discourse which has a developmental sequence of its own, moving from an embeddedness in practical actions towards an abstract and apparently self-contained disembeddedness" (p. 22).

"making sense of what is said in the dialogue is in any case an essential and prerequisite part of the formal analysis of discourse" (p. 28).

"[classroom discourse has certain properties] 1. It is the teacher who asks questions; 2. The teacher knows the answers; 3. Repeated questions imply wrong answers" (p. 45).

"when teachers ask questions of pupils we are dealing with a phenomenon quite different from what is happening when pupils ask questions of teachers. While pupils may be seeking information, guidance or permission to do something, the teacher is checking that pupils know what they are supposed to, testing their knowledge, checking whether they have been paying attention, defining the agenda for thought, action and discussion. Most of the questions that teachers ask do not, in the most straightforward sense, seek information" (p. 46).
"so if what the teacher does is to pose the same question again, the implication is that whatever answer was received was evaluated as incorrect, and an alternative is now requested. Silence on the teacher's part may imply the same thing; the earlier questions remains 'on the table'. If the teacher ignores a question put by a pupil, we may expect the opposite interpretation – the question has failed to be put on the agenda….the teacher is in a position to control the discourse, to define what are appropriate things to talk about, and may act as an arbiter of valid knowledge….these rules of classroom talk are part of a more general set of unwritten rules of interpretation which underlie successful participation in educational discourse" (p. 47).

"it is worth noting that, although the children did not enter the teacher's universe of discourse, they were perfectly able to participate in educational discourse in a more superficial sense – to fill response slots in IRF exchanges….what they and their teacher did not achieve was the construction of a shared frame of reference for their talk, a

shared ground-rule; the pupils did not understand the implicit requirement for a particular sort of answer" (p. 53).

"We normally think of the 'context' of an utterance as something concrete and determinable – the surrounding talk or text, the surrounding actions, gestures and situation. But this is an outsider's view. For the participants, the context of an utterance is more a matter of perception and memory – what they think has been said, what they think was meant, what they perceive to be relevant….the physical circumstances of any act of communication, whether spoken or written could support an infinity of detailed descriptions. What matters is what the participants in the communication understand and see as relevant. Even the surrounding discourse itself is contextual only in so far as it it remembered or understood, whether accurately or not" (p. 66).

"she talked throughout the demonstration about what she was doing, and it is necessary that we understand the importance of that talk. One function it achieved was to direct and hold the pupil's attention to what she was doing, and to orient the joint attention of the group to specific aspects of the activity….further the teacher's words served to highlight the significant aspects of the activity. They encapsulated what it was about her actions that the pupils ought to be noticing and remembering, what finite meaning should be placed upon them. Indeed the teacher sometimes expressed this idea explicitly (p. 79)….third, the teacher's words provided for the group a common vocabulary for those actions that they would need in order to communicate these joint understandings to each other" (p. 80).

"What began as a physical context of joint activity late came to serve as a shared mental context of experience and understanding. Having gone through the demonstration together, and having established how to talk about it, teacher and pupils could begin to exchange understandings with words alone. The joint activity and discourse of the past became a shared mental context for the present" (p. 80).

" the handover process is explicated as part of a continuity of shared understanding. It begins when the teacher takes up Ian's request to use one of the engraving tools, and is invoked as a rationale for paying attention to the teacher's words and actions, offer now as generalized principles that may be applicable to new circumstances, rather than merely one-off routines relevant only to the activity of the present" (p. 88).

"Through discourse and joint action, two or more people build a body of common knowledge which becomes the contextual basis for further communication. Over messages, things actually said, are only a small part of the total communication. They are only tips of the icebergs, in which the great hidden mass beneath is essential to the nature of what is openly visibly above the waterline. This is why context and continuity are essential considerations in the analysis of discourse….Context is an essentially mental phenomenon…..the very act of naming things, or of assuming shared understandings of them, makes their reality for communicators a social and conceptual one, rather than one of simple existence in the surrounding world. Context is the common knowledge of speakers invoked by the discourse…Continuity is a characteristic of context, being context as it develops through time in the process of joint talk and action. It exists as shared memory and intention, the conceptions and

assumptions that participants hold, of what they have done and said, of its significance, of what the interaction is all about and of where it is wrong" (p. 160-61).

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Through the processes of interacting and interpreting, members construct a social history that inscribes a particular world. This world appears ordinary to members who contributed to the construction of the patterns of life (insiders) but may not be perceived or interpreted by outsiders (e.g., new students, student teachers, or visitors) as members would. New students and student teachers are faced with the problem of becoming members of the class, of subgroups, and of a peer culture (teacher or student). Visitors are faced with the problem of seeing the world and its requirements from an insider's point of view. To solve this problem, outsiders need to develop local knowledge of social and academic processes including: meanings for terms and phrases (the referential system); expectations for what can and may occur that members have constructed to guide their everyday life in this classroom (routines and conventions), understandings of common or patterned ways of interacting with others (the discourse system), and knowledge of ways of constructing, using and responding to oral and written classroom texts and other artifacts (the interpretive system) (Edwards & Mercer, 1987, *Common Knowledge.* New York: Falmer).

In reading the articles, and in considering the data on which they are based, I inevitably wondered what aspects I would have focused on if I had been asked to make that kind of contribution to this volume. I am sure that, in ways similar to those of the contributing writers, I would have brought my own conceptual battery into action and explored some of my own persistent concerns. Such concerns would include how classroom discourse is used by teachers and children to create the future of their activities from the "common knowledge" of their past shared experience (Edwards&Mercer, 1987), the ways in which children become active users of specialist discourses (Mercer, 1995), and ways in which language is used as a tool kit for collective thinking (Mercer, 2000).

When Edwards and Mercer (5) studied children learning first-hand about the behaviour of pendula, they concluded that experience often leads to ritual knowledge rather than the desired understanding of principles. Similarly, experiences of teaching--in a practicum or throughout one's career--are not directly or easily related to one's personal beliefs and assumptions about how students learn and why one teaches as one does.

Section 2 (Sessions 2-4)
Work in these sessions covers the following areas:
- the language of home vs. the language of school;
- the sociolinguistics of the classroom;
- specific issues in classroom language (e.g. questioning, the role of whole class vs. small group teaching);
- the sociology of education with respect to classroom language (e.g. Bernstein);
- social-psychological perspectives on classroom processes (e.g. scaffolding; procedural vs. principled knowledge)
- the specific nature of classroom discourse.

While a good deal of literature is referred to in this section, Edwards and Mercer's Common Knowledge: the development of understanding in the classroom is recommended as a core reader.

In the culture of schools, teachers often feel obliged to ensure that pupils learn socially accepted knowledge and skills (textbook knowledge assessed through tests) in the learning activity (Edwards & Mercer, 1987).

Vygotsky (1986) bases his theory of the relationship between thought and language on the realist
view that ontological independent objects exist. For these objects, formal expressions are introduced in the form of words that we use to represent them in oral and written language. The connection between the object and the formal expression is, however, not a direct one. Each individual ‘assigns’ a subjective content to the term, linking it to the object. This subjective content corresponds to the person’s cognitive perception of the object being referred to. Having established learning as a situated practice, it follows that verbal interaction plays an important role (Edwards, 1997; Mercer, 1995; Scott, 1998). A prerequisite for successful communication – and hence for learning – is that the interacting parties find a platform of 'common knowledge' (Edwards, 1990). In discursive interaction with other individuals, there is a need for a common frame of reference to give the sense that we understand each other. Since each person ‘assigns’ his or her own semantic content to the different terms, the subjective content will vary. Such a common frame of reference is not automatically present. This conceptual incompatibility is often not evident in a conversation – especially not when referring to relatively noncomplex phenomenons like tables or chairs. When moving on to more abstract themes, the incompatibility will be more obvious and we might even feel that we are not talking about the same thing (Glasersfeld, 1989).

"Vigotsky was proposing that children's understanding is shaped not only through adaptive encounters with the physical world but through interactions between people in relation to the world---a world not merely physical and apprehended by the senses, but cultural, meaningful and significant, and made so primarily by language. Human knowledge and thought are themselves therefore fundamentally cultural, deriving their distinctive properties form the nature social activity, of language, discourse and other cultural forms." D. Edwards and N. Mercer. *Common Knowledge: The Development of Understanding in the Classroom.* London: Methuen, 1987.

Chapters 2 through to 6 offer supporting reviews of some work in discourse analysis, conversation analysis, education, and computer text analysis, from a variety of researchers including the author and his colleagues. The points are illustrated with transcriptions of language in use in interaction, which are then analysed with the "interthinking" concept in mind. These data come from a variety of settings, including professional "on-task" interaction, the courtroom, an e-mail exchange, ethnographic investigation, educational research, and classrooms. The tendency in selection is towards the last two of these, which will come as no surprise to those familiar with Mercer's earlier work on language in education (e.g. Edwards and Mercer 1987, Mercer 1996).

Building on the foundation of the review and the analyses, Mercer introduces his new terms, or new ways of looking at familiar concepts. "Interthinking" has already been mentioned. It is also worth noting the insistence "context" as something dynamic, constantly re-made, apart from the "context of use" that texts carry with them from the start. Dynamic context is re-made not only in the course of an interaction but over the history of the interactions of groups, in what Mercer terms the "long conversation".
The core of Mercer's analysis of how interthinking might fail is his tripartite classification of kinds of talk: disputational, cumulative, and exploratory. In disputational talk, speakers are concerned to defend their own selves, at the possible expense of any attempt at a solution or an approach to truth. The imperative is to disagree. In cumulative talk, rapport and solidarity take precedence, each speaker seeking to support the other's self. Again, effective co-operation on an external task may be hampered, as speakers bend over backwards to agree with each other, rather than to explore facts and solutions. Exploratory talk occurs when speakers "engage critically but constructively with each other's ideas" (p.98). Disagreement necessarily occurs, but reasons are given. Transactionally, one might say that both or all selves are effaced to the extent that no self is under threat or in need of support or face- saving. In terms of the metafunctions of systemic linguistics, in disputational and in cumulative talk, the interpersonal predominates, while in exploratory talk the ideational function comes to the fore. These three categories are not exclusive, since, as Mercer points out, any conversation may display elements of more than one of these, or switch from one to the other. One might also point out that in systemic- functional grammar, all three metafunctions, interpersonal, ideational and textual, are necessarily present in every clause, and so in every text or utterance (Halliday 1994).

The Collaborative Problem

Social constructivists emphasise the interrelationship between spoken language and learning. They claim that group work enables students to develop their understanding and enhance their critical thinking (Britton, 1987; Edwards & Mercer, 1987; Wells et al, 1990). Barnes (1992) points to the learning potential of open group discussions, which are reflective and hypothetical, where speech is tentative and exploratory, and where students are prepared to take risks and to share their thoughts.

Today much attention is given to the “discursive” nature of science, science as a kind of ”language game” (Bauersfeld, 1995; Bergqvist & Säljö, 1994). One must learn to ”speak” science, as it were. This seems partly due to the development of a social constructivist understanding of learning (Edwards & Mercer, 1987). Language is certainly an important part of science teaching and learning, but an exclusive attention to ”discourse” may lead to the same neglect of sense-experience as when too much attention is given to concepts and their definitions.

Edwards and Mercer (1987) have highlighted the importance of *long conversations* that run through a teaching sequence. Teachers maintain *continuity* of these conversations by using *metacognitive comments* (e.g. 'from last lesson we already know that…') and *metadiscursive comments* (e.g. 'we talked about this yesterday…'), (Edwards & Mercer, 1987; Mercer, 1995).