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Diversity and Commonality in the Analysis of Talk

Neil Mercer

Centre for Language and Communications, Faculty of Education and Language Studies
The Open University UK

When I was first told of the proposal that a group of researchers should each be asked to analyze the same two episodes of classroom discourse, I considered the idea intriguing and potentially valuable. It could generate, I thought, an illustration of the variety of riches that any piece of talk data possesses, as revealed by the application of a diverse set of perspectives. On the other hand, I had some doubts about the extent to which it would prove possible for each analyst to have sufficient contextualizing information about such data for their analyses to be more than superficial. Having read the articles in this issue, I see that the proposal has justified itself. We do have varied accounts arising from different perspectives, indeed more varied than I had expected. And to a great extent my worries have been allayed; all the researchers involved seem to have found enough meaning in the data they were offered to feel confident in offering their own distinctive and interesting analyses.

With the exception of McClain, who brings to her analysis the perspective of the teacher involved in both the *Batteries* and *Aids* episodes, the other contributors all approached the data as nonparticipating analysts. To carry out the task they agreed to pursue, then, they had to draw on whatever analytic resources they believed were appropriate. One such set of resources is that of analytic concepts. By this, I mean pre-existing notions that are already part of the tool kit of any educational researcher and that represent—in ways that are to differing extents made explicit in the articles—underlying theorizations of the processes of communication, tool use, teaching, learning, and thinking. The range of these

Correspondence and requests for reprints should be sent to Professor Neil Mercer, Centre for Language and Communications, Faculty of Education and Language Studies, The Open University, Milton Keynes, United Kingdom MK7 6AA. E-mail: n.m.mercer@open.ac.uk

concepts is illustrated by the following examples (which do not constitute a comprehensive list). For each researcher/pair of researchers, I have italicized the concept that I perceived as their most distinctive and important.

Cobb: *Chain of signification*, classroom mathematical practice, tools, inscriptions.

McClain: *Teacher–pupil communication*, teacher's decision making, opportunities for learning, tools.

Forman and Ansell: *Inscriptions*, scientific communities, classroom practices, revoicing, social participation structures.

Saxe: *Collective practices*, microgenetic analysis, sociogenetic analysis, ontogenetic analysis.

Schliemann: *Data display tools*, cultural mediators, construction processes.

Sfard: *Intimations*, implementations, symbolic artifacts, discursive ways.

Given this diversity of conceptual resources, it is not surprising that the analyses offered are so different. Of course, this is not the only source of difference: Writers also chose to attend to different aspects of content and process in the episodes, in ways that presumably related to their particular and enduring concerns as educational researchers. Contributors seem to differ, for example, in the extent to which they were relatively more interested in discourse as data on the communicative processes of education (McClain, Forman & Ansell, Saxe) or as a source of insights into the nature of students' thinking (Cobb, Sfard, Schiemann).

Attending to the data in these different ways does not generate analyses that are, so far as I can see, incompatible. Indeed, there is a great deal of potential complementarity in the revelations and the conclusions offered here. From this issue a reader can gain useful insights into a range of topics that include the educational value of talk among learners, the role of a teacher as a discourse guide, the quality of individual participation in joint classroom activity, artifacts as tools for carrying out the interactive processes of teaching and learning, and the relation between language use and the development of mathematical thinking.

The diversity of analyses offered leaves other impressions. One of the most powerful effects of reading these articles was the realization that it is only at some risk to the overall validity of educational research that we allow ourselves to focus on some aspects of classroom communication at the expense of others, and in doing so take account only of some of the increasing range of useful concepts and methodologies that are now available to analysts. The only justification we have, probably, is that of the practical limitations of human endeavor.

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). The range of possible perspectives on those two episodes, and the analyses that would then be offered, might of course simply multiply by the number of analysts asked to contribute. But if that is the case, then perhaps we should be a little wary of celebrating such rich and interesting diversity without also expressing some critical concern. As I look back at my list of concepts used by the contributors, it is striking that there is so little overlap in the concepts used. What does this say about the state of affairs in the community of researchers who study the discourse of mathematics classrooms? Would a group of, say, physicists or economists asked to make parallel analyses of the same data demonstrate such little commonality in their conceptualizations, perspectives, and concerns? I wonder if others will agree with me that there seems to be a need for some consolidation of the concepts and methods for analyzing the processes of teaching and learning in mathematics classrooms if we are to make more systematic progress in this important area of educational research.

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