

## CHILDREN'S PERCEPTIONS OF WHOLE CLASS INTERACTIVE TEACHING: 'MENTAL-ORAL' OR 'MENTAL-AURAL'?

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*The National Numeracy Strategy calls for greater use of whole-class, interactive teaching with dialogue and discussion at its heart. However, there is little if any rationale given in the Strategy for using talking and listening as an approach to teaching and learning. This study explores children's perceptions of interaction and, in particular, the role of talking and listening. It concludes that listening is privileged over talking and that this has important consequences for interactive teaching.*

### INTRODUCTION

The introduction of the National Numeracy Strategy (DfEE, 1998) in 1999 brought with it many teaching ideas that could have been considered 'new'. Two elements stood out in particular however: the structured framework of learning objectives (DfEE, 1999a, sections 4 - 6) with associated examples to support planning; and the encouragement to work with the whole class in an 'interactive' way (Pratt, ongoing PhD thesis).

*Interactive teaching* is defined in the NNS as

a two-way process in which pupils are expected to play an active part by answering questions, contributing points to discussions, and explaining and demonstrating their methods to the class. (DfEE, 1999a, p. 1:11)

However, whilst the NNS outlines succinctly *what* teachers should do, it is less clear about *why* this practice should be adopted, as least in terms of any theoretical perspective on how engagement in a discourse of this nature might support learning. Alexander (2000, p. 323) notes the wise observation of Edmund Leach, that *descriptive* models of practice should be succinct but that *prescriptive* models need to be detailed enough for practitioners to understand the subtleties of how and why certain actions are useful and necessary – not a claim that can be made of either the NNS Framework nor the training materials associated with it (e.g. DfEE, 1999b). In addition to, or perhaps partly because of, the absence of any proper theoretical framework for interactive teaching, a *didactic tension* (Mason, 1988) arises in practice, with teachers then stuck in,

a position of having certain knowledge to inculcate or elicit, while recognizing that such knowledge is individual and can only be shared through listening and negotiation. (Jaworski, 1994, p. 182)

Earlier work relating to this study suggests that this is borne out in practice and that teachers working in a whole-class interactive manner tend to experience tension in

having “to inculcate knowledge while apparently eliciting it” (Edwards and Mercer, 1987, p. 126). The effects of such practice on children’s behaviour have been documented (Jaworski, 1994; Edwards and Mercer, 1987). Whilst such tensions have been considered from the point of view of the teacher/researcher, the study reported here attempts to explore this problem from the perspective of the child in order to gain some insight into his/her understanding of the features of the ‘task’ of classroom discourse.

## **METHOD**

Eliciting children’s ideas about classroom issues carries a number of potential difficulties and dangers. Children, even more than adults, when asked to reflect on their experiences in the classroom are likely to generate accounts of practice that are far removed from ‘actual’ experience. Rather than asking children simply to ‘reflect’ on practice generally, an attempt was made to engage children in considering particular experiences from which interpretations about conceptions relating to the phenomena involved could be made. In this respect the study shared aspects of a phenomenographic approach, though it did not claim to make the same assumptions as phenomenographers would (Marton, 1986) and aimed to build grounded theory in the manner outlined by Strauss and Corbin (1990). To encourage children to describe phenomena rather than to reflect on recalled experiences, three lessons in two different schools were videoed, involving a Year 4 class and two Year 6 classes (8/9 and 10/11 years old respectively). The tapes were edited in order to select episodes which I considered representative of the dilemmas reported by teachers in an earlier study. Children were then interviewed in pairs and shown the clips of edited video. The aim was to explore with the children how they understood the events being replayed to them and, to this end, the interview began with relatively open questions exploring their perceptions of each situation. The latter stages of each interview focused more specifically on six elements of interactive teaching which were considered in turn in terms of how useful the children considered them to be in helping them to learn mathematics. These elements were: the teacher asking questions; explaining ideas; helping [children] to talk and listen to each other; listening to ideas; saying whether an answer is right or wrong; and writing things on the board.

Transcripts from the interviews, along with notes taken during the lesson and a subsequent interview with the teacher, constituted the data which was then categorized. The categories emerging from this analysis formed the basis for theory building in relation to the children’s conceptions of what was happening in the whole-class interactive elements of these lesson.

## **FINDINGS**

The findings relate to two aspects of the lessons: *what* children thought was being learnt; and *how* they believed this was to be learnt. Only the latter is dealt with here, except to note that the lessons observed related to calculation strategies and

essentially children understood their purpose to be the development of ever more 'efficient' methods in this respect. In what follows relating to the 'how' of learning, quotes included from children aim simply to illustrate ideas (and note too that Child 1 and Child 2 refer to different children in each section of transcript.)

In response to the question of *how* the children appeared to believe they would learn methods of calculation, there were a number of related findings. First, children were quick to identify difficulties both in understanding and in simply hearing what other children said. All interviewees had peers whom they readily identified as 'worth listening to', or who were likely to give comprehensible answers, and it was common for them to name these people with little prompting. Some children commented on their own calculating methods being resistant to change even when they understood the shared idea, whilst others played 'games' with the teacher, for example deliberately putting their hands *down* at tactical moments, even though they knew the answer, in order to encourage the teacher to ask them to respond.

A second feature of sharing ideas related to ways in which the children perceived knowledge as being filtered and validated by the teacher. Though the numeracy strategy's definition of interactive teaching refers to children "contributing points to discussion" the children clearly knew the power relationships resulting from the inherent didactic tension and understood that the teacher filtered contributions in order to address his or her own preconceived agenda. Tensions also manifested themselves through the teachers' use of clues to hint at required (in the sense of for the teacher's argument) answers and the way in which s/he corrected children's responses in order that they should then be 'remembered' by the children.

CHILD1: If you wouldn't know a question, she'll start explaining and giving you a couple more clues.

And ....

INT I suppose I might say, why doesn't she just tell you the answer?

CHILD 1 Because we have to work it out on our own.

INT Why do you think you have to do that?

CHILD 1 Because it is a maths lesson.

INT That's what you do in maths lessons?

CHILD 1 Yes.

Children seemed to clearly understand the tensions involved, if only at an implicit level.

It is interesting to note here that the children's perceptions of learning as an *individual* enterprise are somewhat at odds with the strategy's overall aim of making learning a social, interactive event, at least in the first and last parts of the standard lesson framework. One other finding illuminates this notion further, namely the children's perceptions of the role of talking and listening. Listening was clearly far

more important to them than talking – not surprisingly, since in a class of 30 children, 29 are going to be listening when one is talking and children understood the rules of classroom behaviour well enough. However, the children appeared to be describing not just this quantitative difference, but also a qualitative difference in the value of listening as opposed to talking. For example:

- INT           What about this one – encouraging you to talk and listen to each other?
- CHILD 2    Yes, because say if I said something and it is right, *if they didn't listen they wouldn't know*. Sometimes like if Sam says something, she'll say "Oh that's excellent".
- CHILD 1    If she asks people who don't know, you would be waiting for say Chloe to work it out and then if she gets it wrong the teacher would talk to Chloe *and let the whole class listen*. Sometimes it helps us as well, if we are listening. (Emphasis added).

Similarly,

- INT           What about the last one. Encouraging each other to talk and listen?
- CHILD 2    Yes, because if the class listen then if they think something has gone wrong or if it is right or tell us if there is an easier way.

The sense in both these transcripts is that class is 'overhearing' what is being said (essentially privately) between the teacher and an individual. Talking is not seen by the children or the teacher as a vehicle for learning; rather it is a vehicle for facilitating listening – and listening that appeared largely passive and evaluative at that (Coles, 2001). Indeed, an appropriate label for this form of talk might be 'listening-fodder'.

## DISCUSSION

Quite apart from the details of children's perceptions of working interactively – listening for clues, playing games with the teacher, knowing who is worth listening to and who is not etc. – the findings outlined above point to deeper, more fundamental issues in relation to how these children perceive learning to be taking place in whole-class, interactive situations. First, the individual nature of the experience stands in marked contrast to that which one might suppose such a social form of interaction could offer (e.g. Jones and Tanner, 2002; Edwards and Mercer, 1987; Wells, 1987).

Second, research has also made clear the role played by 'explanation' and 'discussion'. Mercer (2000, p. 141), for example, claims that teaching and learning is an "intermental or interthinking" process and that,

For a teacher to teach and a learner to learn, they must use talk and joint activity to create a shared communicative space ... In this intermental zone, which is reconstituted constantly as the dialogue continues, the teacher and learner negotiate their way through the activity in which they are involved.

From this perspective talk plays a crucial role, not in simply providing ‘listening-fodder’ to be acquired, but as the essence of the process of negotiation of meaning. Clearly, for such a process to take place, talking needs to be seen as an important element of classroom practice, not least in as far as it is expected to be articulate and intelligible.

It is well known that the whole-class basis for teaching adopted in the NNS gained considerable momentum from studies of teaching undertaken in a range of different international contexts (Reynolds and Farrell, 1996). Alexander’s (2000) study of schooling in five such contexts (India, Russia, France, UK and USA) takes a deeper and more considered look at such evidence. It concludes that,

Pedagogic interaction and discourse in English classrooms, across all subjects, has a very different dynamic from that which we observed in France and Russia. It is relatively informal, conversational, unstructured and above all private. There is little attention to precision and appositeness [sic] in the forms of oral expression which children learn to use ... [data] force me unambiguously to the conclusion that in English primary classrooms, although much is made of the importance of talk in learning, and a great deal of talking goes on, its function is seen as primarily social rather than cognitive, and as ‘helpful’ to learning rather than as fundamental to it. (p. 566).

It would appear that in promoting interactive teaching in the form defined in its Framework for teaching, the National Numeracy Strategy may not yet have done enough to make clear to teachers a theoretical basis on which talking and listening might become part of an effective teaching and learning approach. More particularly, there seems to be a need to clarify the purpose and appropriate styles of talk, focussing on quality not quantity, and hence to move beyond the current situation in which we have a veneer of collaboration, but in which interaction seems more appropriately described as *mental-aural* than mental-oral.

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## **BIBLIOGRAPHIC DETAILS**

Nick Pratt is a principal lecturer in Mathematics Education at the University of Plymouth. He spent a number of years teaching in a primary school in Exeter before moving to the Faculty of Education where he now runs the primary PGCE programme. He is studying for a PhD, looking at teachers' and children's reactions to the National Numeracy Strategy and at interactive teaching in particular.