

Perceptions of Barriers to Numeracy

Judith A. Mousley
Deakin University
<judym@deakin.edu.au>

This paper reports on one of the initial stage in a project that aims to identify, describe, evaluate, and provide advice on aspects of classroom pedagogy that may act as barriers to the numeracy development of some primary students. The paper describes how focus groups were used and some of the outcomes of this process. Some concerns are discussed, and suggestions for improving the process are made. However, it is concluded that the focus group approach served the research purposes well.

“What do you get when you cross a sheep with a kangaroo?” asked the teacher on the video. Several children put up their hands. One replied, “A woolly jumper”. The teacher nodded and laughed. Some children smiled, making quick comments to each other. The teacher continued her lesson on combinations and permutations. These Year 7 children were about to work out how many “mixed-up animals” could be made with 3 animals, and then 4 animals, each cut into 3 parts.

The group of research participants watching the video pointed out that there would have been children in the class who did not understand it. It was an Australian joke, and children not knowing that *jumper* means *sweater* would not be able to appreciate the pun. The class had included quite a few immigrant children. It was also pointed out that some of the students would not have known what it was to “cross a sheep” because their experience of the word “cross” was probably restricted to anger, movement, a multiplication symbol, and a crucifix. Others said the children might manage the mathematics of the lesson, but were concerned about how some children’s confusion might “eat into the next stage of the teaching” and about their starting a lesson with “feelings of confusion and incompetence”.

Some children will feel confused by the incident and will spend some time trying to fathom it out—and in the meantime the teacher has moved on and is explaining the task. Probably half the class are still thinking, “What’s the woolly jumper? I don’t get the joke. (Jenny, Focus group 3)

What followed in the focus group was a discussion about ways that introductions to lessons and “real-world” contexts for problems may add to difficulties that some children have with mathematics lessons, rather than serving to interest them and to make the mathematics more meaningful. As the dialogue progressed, participants gave varied examples from their own experience identified similar examples from the videotapes, and suggested ways that teachers could make expectations more explicit and their teaching of mathematics more inclusive.

The Research Project

This short recount of a research scenario above typifies the activity in the first research stage of the project entitled *Overcoming Barriers to Mathematics Learning*. The research is based on the assumption that for mainstream students, processes, expectations, and communications are relatively clear, but for students from different socio-cultural backgrounds (such as low socio-economic groups, Indigenous children, and some recent immigrants) expectations may not be clear and consequently children’s participation in mathematics classrooms may suffer. The project will investigate whether making explicit such aspects of classrooms can facilitate learning.