Symposium

Identifying and Overcoming Barriers to Mathematics Learning

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In this symposium, four aspects of one major research project are presented. The project, *Overcoming Barriers to Mathematics Learning*, is funded by The Australian Research Council and the Victorian Department of Education and Training.

Focus groups were used to identify and described aspects of "implicit pedagogy" that may present barriers for some children when open questions are used as a basis for the teaching of mathematics. These focus groups are the subject of the first paper, *Perceptions of barriers to numeracy*. Mousley describes the focus-group methodology and some findings, and raises issues concerning the use of focus groups. A product of this initial research stage was a manual that presents advice to teachers about the barriers identified.

In *The potential of open-ended mathematics tasks for overcoming barriers to learnin*g, Sullivan describes some of the considerations in choosing tasks to be used as the prompts for mathematics learning experiences. He discusses the advantages and possible limitations of using open-ended tasks in mathematics teaching, and the pedagogies that teachers can use to avoid potential disadvantages to some students.

In the third paper, *Teachers' perceptions of how open-ended mathematics tasks assist in overcoming barriers to learning*, Turner Harrison reports data from interviews with teachers who sought to implement the pedagogies recommended as part of the project. The data indicate that it is possible to use open-ended tasks effectively and inclusively.

Finally, in *Disrupting the pedagogic relay using open-ended tasks*, Zevenbergen gives an account of the implementation of the advice in a Queensland school. The research context here includes Indigenous students learning mathematics in a language that is not their home language. The paper reports ways in which a teacher adjusted patterns of language and work to accommodate the students.