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Awareness of Learning
in the Mathematics Classroom

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ABSTRACT

The thesis reports on a teacher research project, involving a Form 3 class in a New Zealand secondary school. The study considers the importance of metacognitive behaviours in developing students' awareness of learning in mathematics. It focuses on the teacher in the classroom emphasising awareness of learning with students.

The theoretical basis of the New Zealand Mathematics curriculum, that is, constructivism and its corollary active learning, provides the impetus for the study. Classroom activities, both routine and those specifically tailored for such an investigation, are trialled. In the process, shifts and developments in the students' and teacher's knowledge and beliefs, are documented. Methods of teaching are explored and evaluated in the move towards constructivist teaching practice.

Although teacher research is a relatively new and accepted methodology, it derives from Dewey (1933) and Schon's (1983) work on reflective practice. Using the more established action research methodology as a scaffold this thesis found the open teacher research style suited the sole researcher nature of this work. Within the process of critical reflection this study of mathematics classroom practice exposes the conflicts faced when beliefs and attitudes of both students and teacher are sometimes inconsistent with those inherent in the curriculum guidelines. It also documents some of the difficulties in sustaining teacher research while coping with daily teacher class loads.
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