

**Fitzgerald, William, 1995,** *A study of metacognition and an exploration of the Role of Metacognition in the students' success at solving written worded problems in mathematics, along with an Analysis of changes that are needed in Irish Primary Schools to Develop, Evaluate and Assess Students' Metacognitive Skills in Mathematical Problem Solving.*

## **DISSERTATION ABSTRACT**

The relationship between metacognition and mathematics learning is the focus of increased attention as a topic for research and curricular reform. There is growing support for the view that purely cognitive analyses of mathematical performance are inadequate because they overlook cognitive actions. Hence, this dissertation focuses on a study of metacognition and the role it plays in mathematical problem-solving performance. Mathematical problem-solving models or frameworks that incorporate metacognitive skills are outlined and there is a review of research on instructional techniques and classroom activities that teach for metacognition in the context of mathematical problem-solving.

The author concludes with an analysis of changes that need to be made in Irish primary schools to improve pupils' mathematical problem-solving performances, as a result of research reviewed in this dissertation and the results of a classroom-based experiment to improve the pupils' metacognitive skills in the context of mathematical problem-solving. Among the changes recommended are the need for a thinking skills programme to improve pupils' metacognitive skills and the introduction of more evaluation and assessment techniques in mathematical problem-solving that focus on the process of problem-solving.