

SELF CONCEPT & PARTICIPATION IN MATHEMATICS

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In this pilot study the students of one grade six class completed assessment items and were interviewed to identify their strategies for overcoming difficulties and their self concepts of ability and goals in mathematics.

This study investigated the motivation of students when undertaking mathematics tasks, and the influence of motivation on strategies for coping with frustration when experiencing difficulties. It was suspected that some students may not have established perceptions of the benefits of being competent in mathematics, nor were they aware that there is potential for them to be empowered by competency. It was assumed that by verbalizing to students that competency in mathematics is incremental, they may approach tasks differently, affecting motivation and by extension participation.

One influential determinant of participation in the educational process is the student's perceptions of their goals, and the influence of their perceptions play on motivation. Bandura (1995) explained self-efficacy to be the extent to which a person feels confident in their ability to undertake an action successfully, and may influence the direction of their lives. Students who feel in control of their lives are more likely to have opportunities for success both within the educational system and without (Lapadat, 1998). Dweck (2000) investigated students' perceptions of intelligence and contends that students may hold beliefs that are inhibiting their performance and participation at school, that students can be taught that intelligence is incremental, and can be taught a mastery orientation through explicit instruction. This is similar to Stipek (1993) who explains attribution retraining as when students are taught to change their goal orientation from performance to mastery. Brophy (1983) also noted the influence of teachers on students through pedagogy and feedback, that he termed self fulfilling prophecy.

Students of one grade six class completed a hierarchically organized assessment in which each task was incrementally harder to complete. Once a student had completed each task, they were asked whether they felt they were successful. If correct they continued to the next task following the same format. If not, they were asked how they felt about being wrong, and what teaching they required in order to continue. Various background data were gathered to seek to identify contributing factors, and a survey adapted from Dweck's instrument sought data on perceptions of intelligence. This communication will report on the study and preliminary results.

References

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