

Responsibility in the Math Classroom and its Correlation with Mathematics Anxiety

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Responsibility is an important component of the mathematics learning process that enables students to become more active participants in the mathematics classroom. In recent years, educators have acknowledged the unique power distribution in the classroom, wherein students are often passive participants in the learning process (Eva, 2017). Consequently, research in education has focused on developing and studying the effects of alternative teaching models, such as the gradual release of responsibility model, that are more student-centered (Webb et al., 2019). Alternatively, expanding on Emerson's (1962) power-dependence theory, student's can gain more control in the learning process by assuming more responsibility for their learning. In this exploratory study, we analyze student and teacher responsibility in the mathematics classroom and the potential correlation between student responsibility and feelings of mathematics anxiety. For this study, 5 math teachers and 100 students from both advanced and regular math classes from a public high school in Stanislaus County in California were surveyed using a mixed research design that gathered both qualitative and quantitative data. Student and teacher responsibility were measured using preliminary Likert-type scales created for this study. Mathematics anxiety was measured using Mahmood and Dr. Khatoon's (2011) Math Anxiety Scale (MAS). Preliminary results indicate there is a difference in perceptions of student responsibility between advanced and regular math students. Results also imply mathematics anxiety may be negatively correlated with student perceptions of responsibility. Ultimately, results reveal responsibility in the mathematics classroom is a complex concept requiring additional analysis.