**GEORGIA SOUTHERN UNIVERSITY INSTITUTIONAL REVIEW BOARD**
INSTRUCTIONS FOR PREPARATION OF PROPOSAL NARRATIVE

**Personnel**.

Other than the Investigator, advisor, and subjects; there will be no other personnel involved in this study.

**Purpose.**

Purpose of Study:

The purpose of this study is to determine how the implementation of motivational strategies will affect the performance of students in a Math III course. This quasi-experimental study will be implemented two sections of the course to determine if the execution of daily motivational strategies designed around the needs of the students will significantly affect the performance of the students in a mathematics classroom.

Research Questions:

This study will compare the data obtained from two Math III courses through pre and post-tests over a six week period to prove or disprove the directional hypothesis. The directional hypothesis for this study will be: Students provided with motivational strategies in a Georgia Performance Standards course of Math III will have a significantly higher mathematics performance than those students without the intervention of daily motivational strategies.

Relevant Research:

It is evident from the literature review that student motivation in secondary mathematics is determined by multiple factors and influences. Students are more motivated to achieve when they are taught using a curriculum that develops individual ideas and promotes critical thinking in a student-centered environment (Manouchehri, 2004; Woodward & Brown, 2006). It is also know that students are more motivated when they have the appropriate balance of pressure and support from the family and teacher (Chen & Stevenson, 1995; Levpuscek & Zupancic, 2009; Stevens, Olivarez, Lan, & Tallent-Runnels; 2004). Moreover, self-efficacy, extrinsic-motivation, and performance have been linked to positive student motivation (Areepattamannil & Freeman, 2008; Stevens, Olivarez, Lan, & Tallent-Runnels; 2004; Bong, 2008). However, it has also been established that student motivation continuously declines as students progress throughout high school and that peer pressure can have a negative impact on student motivation as well (Chouinard & Roy, 2008; Sullivan, Tobias, McDonough; 2006).

Consequently, it has not been determined how to cultivate change within the classroom to allow teachers to develop successful strategies to promote student motivation in mathematics. Although, it is evident that teachers must maintain a learning environment that is free of student oppression and allows for student self-discovery (Manouchehri, 2004). Teachers must also utilize all resources available such as parental support and involvement, self-efficacy, extrinsic-motivation, and performance to maximize student drive within the classroom (Areepattamannil & Freeman, 2008; Stevens, Olivarez, Lan, & Tallent-Runnels; 2004; Bong, 2008; Chen & Stevenson, 1995).

While previous research has identified positive and negative factors that influence student motivation, this study will identify if the inclusion of motivational strategies will significantly improve the students' performance in mathematics. Although, very limited research is available on how to successfully create motivation in the classroom. This study will build on the current literature. Additionally, the lack of relevant information pertaining to the subject of achievement and motivation suggests that there is a need for a study concerning the integration of motivational strategies in the secondary mathematics classroom.

**Outcome.**

Expected Results:

Through this study, the research is anticipated to confirm the hypothesis that the inclusion of motivational strategies will significantly improve mathematics performance in Math III students when compared to those who without such motivational strategies.

Benefits:

This outcome will directly benefit those students who are participants in this study as well as the teacher/researcher. The participants who receive the motivational strategies will have the benefit of educational and entertaining activities during class as well as a possible improvement in test scores and average. The teacher will benefit in the knowledge of successful strategies to improve learning and foster student achievement. These positive outcomes may then be shared with other mathematics teachers to improve student performance.

**Describe your subjects**.

The participants will include a maximum of 48 eleventh grade mathematics students from two classes of Math III with Support. The students selected to participate in this study have the same teacher who is also the researcher. There are no gender or age requirements. Participants will be male and female between the ages of 16 and 17.

Two individual class sections of Mathematics III with Support were randomly assigned, one as the experimental group that receives motivational strategies and the other as the control group which would not receive motivational strategies. Both classes in this experiment are sections of Mathematics III with Support and belong to the same teacher. The experimental group consists of 23 regular education students. The control group has 22 regular education students.

All data which consists of pre and post-test scores will be kept confidential as with all student grades. Data will only be analyzed for each class and not on an individual basis. Each class' mean and standard deviation will be used to determine any significance.

**Methodology (Procedures)**.

Prior to the implementation of the study, permission to perform the study will be obtained from the principal of the school, the county's Board of Education, and Georgia Southern University's Institutional Review Board. Additionally, parents and students will be notified of the research and will be asked for their consent. Any student who does not provide parent and student consent will still be participate in the activities with the class. However, any data pertaining to the individual will be withheld before any research analysis takes place.

During the implementation of three units, the students in both groups will be given pre and post-tests. While both sections of the class will be given the same form of the pre and post-test, the pre-tests will test the same content as the post-tests but not be identical. The students will complete a pre and post-test over 3 units of content during the 6 weeks of the study when the implementation of the independent variable, motivational strategies, takes place.

The instruction will remain consistent for the control group. For those students in the experimental group, they will no longer participate in the same instructional format. The teacher will implement various motivational strategies in the form of activities and games such as scavenger hunts around the school, bingo, and relay races for the students to practice and reinforce their knowledge of the material. The class structure will not follow instruction, practice, and homework. Instead, students will be required to rely on creating their own schemas and use discovery activities to learn the content and uncover the standards.

Additionally, a token economy will be implemented as the second element of the motivational strategies to be implemented. Students will be given a form of currency as a reward for good behavior, completion of assignments, and mathematics achievement. Guidelines for the token economy and letter home to the parents may be found in Appendix A (Token Economy, 2002).

**Special Conditions:**

**Risk**.

There will be minimal to no risk for the participants involved. Students will participate during class time and will simply experience a different form of instruction. Those students in the study will complete the same assessments as those who are not but will now experience motivational strategies that are not harmful and do not include risk.

**Research involving minors**.

Parents will be given a detailed letter concerning the study one week prior to the implementation of the study. The parent and student consent letter are attached. This letter is to be returned to the investigator/teacher two days before implementation with confirmation or denial of consent.

Additionally, the principal and county's board of education will be notified and requested for permission to complete the study one month prior to the implementation of the study.

**Deception**.

N/A

**Medical procedures**.

N/A

**Cover page checklist**.

None of the items on the cover page checklist apply other than what has already been address.