

**MATHEMATICS ANXIETY AND ACHIEVEMENT OF MARINE  
ENGINEERING STUDENTS OF JOHN B. LACSON  
COLLEGES FOUNDATION, MOLO-INC.**

**A Thesis  
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the Faculty of the Graduate School  
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**by**

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**ABSTRACT**

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The primary aim of the study is to determine the level of mathematics anxiety and achievement of Marine Engineering students of John B. Lacson Colleges Foundation, Molo-Inc., as well as to determine the relationship between mathematics anxiety and mathematics achievement.

**Hypotheses of the study**

The study attempted to test the hypotheses that:

1. There is no significant difference in the levels of mathematics anxiety of marine engineering students when grouped according to (a) age, (b) year level, (c) grade point average (GPA), (d) high school of origin, (e) place of origin, (f) living arrangement, (g) parent's education, and (h) parent's occupation.
2. There is no significant difference in the levels of mathematics achievement of marine engineering students when grouped according to (a) age, (b) year level, (c) grade point average (GPA), (d) high school of origin, (e) place of origin, (f) living arrangement, (g) parent's education, and (h) parent's occupation.

3. There is no significant relationship between mathematics anxiety and mathematics achievement.
4. There is no significant relationship between mathematics anxiety and grade point average.
5. There is no significant relationship between mathematics achievement and grade point average.

**Major Findings:**

1. The Marine Engineering students of John B. Lacson Colleges Foundation, Molo-Inc. had “low” mathematics achievement.
2. The mathematics anxiety level of Marine Engineering students was noted to be “low”.
3. There is no significant difference in the levels of mathematics anxiety of students when classified according to age, year level, high school of origin, place of origin, mother’s education, father’s education, living arrangement, mother’s occupation and father’s occupation. However, a significant difference was noted in the mathematics anxiety of students when grouped according to grade point average.
4. No significant difference existed in the mathematics achievement of the respondents when classified according to age, year level, high school of origin, place of origin, father’s educational background, living arrangement, mother’s occupation and father’s occupation. On the other hand, mathematics achievement is significantly influenced by grade point average and mother’s educational background.
5. A significant and positively moderate correlation existed between students’ grade point average (GPA) and mathematics achievement.

6. A significant and low negative correlation existed between mathematics anxiety and grade point average (GPA).
7. A significant and low negative correlation existed between mathematics anxiety and mathematics achievement.

### **Conclusions**

In view of the foregoing results and findings, the following conclusions were drawn.

1. Marine Engineering students of John B. Lacson Colleges Foundation, Molo-Inc. did not have sufficient basic mathematical skills needed in their line of study as shown by their low achievement. The level of their mathematics achievement indicates their lack of preparation for the higher level mathematics.
2. Students at John B. Lacson Colleges Foundation look at mathematics in the same level as their other subjects. Although they find mathematics difficult this, however, does not affect how they feel towards the subject. An “average” mathematics anxiety level of the students supports this view.
3. The place where they came from, the type of high school where they studied, the education of their mother, their age, their living arrangement while studying, education of their father, and occupation of their parents do not significantly affect mathematics anxiety of students at John B. Lacson Colleges Foundation Marine Engineering Department. Mathematics anxiety of students, however, significantly differs as to their grade point average.
4. The type of high school that the students came from, the place where they live, living arrangement, father’s education, age and parent’s occupation have no significant

effect on their mathematics achievement. This indicates that their achievement deficiency is not due to the variables mentioned. Mathematics achievement on the other hand is affected by grade point average and mothers' education.

5. Grade point average (GPA) is negatively and moderately related to mathematics anxiety of students. The slight relationship means that those students with higher grade point average (GPA), will likely have lower mathematics anxiety and those with lower grade point average (GPA) will likely have higher mathematics anxiety.
6. Students' grade point average is positively and moderately related to mathematics achievement. This implies that students with good scholastic performance record in the secondary level will likely have high achievement in college and those students with poor scholastic performance record will likely have lower mathematics achievement.
7. Students' mathematics achievement is negatively but moderately related to mathematics anxiety. The negative but moderate linear correlation of these two variables indicates that students who have low mathematics anxiety tend to achieve better in mathematics than those with high mathematics anxiety.

### **Recommendations.**

Based on the findings, the recommendations are:

Instructors should identify students performing poorly in mathematics and send these students to free tutorial sessions conducted by the department to help them in their mathematics subject, thus improving their performance and achievement. Mathematics instructors should also enrich their methods of teaching using games and visual materials for better understanding of the concepts/ principles presented. Examples should also

focus on real life situation to make lesson more meaningful and free from tension since anxiety has been found to be negatively correlated with achievement.

To improve the quality of teaching, which would absolutely produce quality graduates, teachers should pursue graduate studies in line with their field of specialization so they would develop themselves in math professionally. Due to financial constrains, the administration should support their teachers who are undergoing graduate studies. Instructors' upgrading is a way of enhancing skills and qualification for quality instruction, thus producing best-qualified teachers who can assist students well in their mathematics subjects.

The academic deans, through the subject area heads, should design a training plan that would give mathematics teachers equal opportunity with teachers in other fields to upgrade themselves by attending seminars, workshops, and trainings conducted by mathematics and science organizations.

Guidance counselors should make a program of activities not only for academic counseling and for affective aspects of learning. It should include the mathematics instructors so that report for referrals of mathematics deficiency is made on time. They should also monitor students who were reported with academic deficiency by their academic instructors and see to it that parents are informed.

Parallel study of wider scope should be given consideration by future researchers to determine other factors associated with anxiety not only in the field of mathematics but also to other areas of education. They could include variables like teacher's factor, curriculum, test anxiety, and others.