

**FACTORS ASSOCIATED WITH ATTITUDES AND PERFORMANCE IN
MATHEMATICS OF SENIOR YEAR HIGH SCHOOL STUDENTS OF
LEON GANZON POLYTECHNIC COLLEGE, BALASAN, ILOILO**

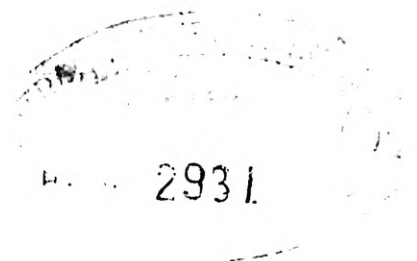
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by

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**FACTORS ASSOCIATED WITH ATTITUDES AND PERFORMANCE IN
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ABSTRACT

This study was conducted to determine the factors that are associated with attitudes and performance in mathematics of senior high school students of Leon Ganzon Polytechnic College in Balasan, Iloilo during the academic year 2001-2002.

Specifically, this investigation determined:

1. the students' characteristics in terms of sex, prior academic performance and present academic performance,
2. the students' perceptions regarding the usefulness of mathematics in daily life and their mathematics teacher's competence, and their attitudes towards mathematics,
3. whether their attitudes vary according to: (a) sex, (b) perceptions regarding the usefulness of mathematics in daily life, (c) perceptions regarding their mathematics teacher's competence and (d) prior academic performance,
4. whether the students' their present academic performance in mathematics varies according to their characteristics and attitudes towards mathematics,
5. whether there is a significant relationship between each of their characteristics and their attitude towards mathematics?

6. whether there is a significant relationship between each of their characteristics, perceptions, and performance, when attitude towards mathematics is controlled?

The respondent population consisted of 150 randomly selected senior high school students of Leon Ganson Polytechnic College who were enrolled during the academic year 2001-2002 and were taking Mathematics IV.

An attitude inventory scale developed by Minnesota Research and Evaluation Project was used to determine the attitude towards mathematics and perceptions on teacher competence of the students. The students' perception about the usefulness of mathematics in their daily life was determined using a researcher made inventory. The students' grade point average was taken from the students' transcript of records from the office of the registrar.

Major Findings

The senior high school students of Leon Ganson Polytechnic College had "average" academic performance in their previous mathematics subject, their mean grades being 82.75. They also had "average" present academic performance, their mean grade being 81.6.

Most of the students perceived that mathematics is very useful in their daily life. The students also perceived that their mathematics teachers were competent.

In general, the students' had positive attitude towards mathematics. Their attitudes significantly varied according to their prior academic performance in mathematics, but it did not significantly vary according to sex, their perception on the

usefulness of mathematics in their lives, and their perceptions regarding their math teacher's competence.

Comparatively, the male students registered a significantly higher academic performance than the female. Academic performance did not significantly vary according to the students' perception on the usefulness of mathematics in daily life, but it significantly varied according to their perceptions regarding their math teacher's competence. Students who perceived their math teachers to be competent and those who perceived them to very competent had more or less the same academic performance.

Sex was not significantly related with attitude towards mathematics, but perceptions on the usefulness of mathematics in daily life, perceptions on teacher competence and prior academic performance were significantly related with attitude towards mathematics.

Sex was not significantly related with present academic performance even when attitude towards mathematics was controlled. On the other hand, perceptions on the usefulness of mathematics in daily life, perceptions on teacher competence and prior academic performance were significantly related with present academic performance when attitude towards mathematics was controlled.

Conclusions

1. The students' average performance is an indication that they are not that much equipped with the knowledge and skills, which are prerequisite to entrance to college level. It can be concluded that the mathematics skills they had acquired in elementary and the first three years in secondary were not sufficient to enable them to perform their tasks in mathematics.

2. The students exhibited positive attitude towards mathematics. They also demonstrated positive perceptions on the usefulness of mathematics in daily life and perceptions on teacher competence. The attitude and perceptions demonstrated by the students were indication that they recognize the value of mathematics and its usefulness in their daily lives. This could only be possible through the continuous and consistent information provided by the teacher regarding the importance of mathematics and the set of perceptions they bring during the instruction that could foster positive attitude and perceptions.

3. The fact that sex is not significantly correlated with attitude towards mathematics, indicates that students' attitude towards mathematics is not gender-based and that sex has no significant bearing on the students' attitude. Irrespective of sex, most of them have positive attitudes towards mathematics.

4. The significant relationship between students' perceptions on the usefulness of mathematics in daily life and on their math teacher's competence and prior academic performance indicates that students who find mathematics useful in their lives and those who believed on their teacher's competence tend to perform academically better in mathematics.

5. The advantage of male students over the female students in academic performance even when attitude towards mathematics was controlled confirms that in general male students perform better in math than female students.

6. Beliefs and perceptions were also found to influence attitude. The more positive are the students' perceptions the positive would be their attitude.

Recommendations

Based on the conclusions of this study, the following recommendations are offered:

1. Considering the average mathematics performance of the students, it is necessary for Department of Education officials, to re-examine the content and focus on the mathematics curriculum in all levels of secondary education.

2. Since students performance could also be attributed to quality of instruction, it is important that mathematics teachers should undergo in-service training and seminar-workshops on innovative strategies in teaching mathematics. They also need updating on content and techniques.

3. Parents should get involved in their children studies. They should help inculcate in their children the love for mathematics by introducing them to mathematics at an early age, like for instance, rhymes and stories about counting and numbers. They can also encourage children and give them opportunities to be involved in marketing and budgeting of their own allowances. This can enhance their attitude towards mathematics and make them interested in the subject.

4. This study should be replicated in other schools and should include not only senior high school students, but students in other levels as well.

5. The current finding offers encouragement for more in-depth studies in mathematics performance. Other cognitive and affective variables may be correlated with performance in mathematics. Such variables as perception of teachers, Intelligence Quotient, and learning styles may also be considered in future studies.