



STUDENTS' ATTITUDES TOWARD MATHEMATICS AND ACADEMIC PERFORMANCE OF SELECTED PRIVATE JUNIOR HIGH SCHOOL STUDENTS

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ABSTRACT

Students' attitudes towards Mathematics are important for their academic performance. The interrelationships among interest, confidence, enjoyment, perceived usefulness, and students' achievement can guide educators in refining teaching strategies and improving learning outcomes. The purpose of this study was to determine the relationship between students' attitudes towards Mathematics and their Mathematics performance among junior high school students. The study used a descriptive-correlational research design. A total of 194 students from Grade 7 to 10 participated. Students' attitudes were measured by a researcher-made questionnaire with four dimensions: interest, confidence, enjoyment, and perceived usefulness. Data were analyzed using frequency, percentage distribution, mean, standard deviation, and Pearson Product-Moment Correlation. The findings showed that students generally had a positive attitude towards Mathematics with perceived usefulness having the highest mean and interpreted as very high. Moreover, students performed well overall in Mathematics, and higher-grade levels outperformed lower-grade levels. Furthermore, the study revealed a significant positive correlation between students' attitudes towards Mathematics and their Mathematics academic performance. Interest, confidence, enjoyment, and perceived usefulness are higher when academic results are better. The study further concludes that developing a positive attitude towards Mathematics can improve student academic performance. Therefore, it is recommended that teachers use strategies that support students' affective and cognitive development in Mathematics.

Keywords: *Mathematics Attitude, Mathematics Performance, Interest, Confidence, Perceived Usefulness*

INTRODUCTION

Mathematics is generally acknowledged as a core subject essential for developing students' critical thinking, logical reasoning, and problem-solving skills (Skovsmose, 2020). Although all agree on its importance, students have very different attitudes to Mathematics, ranging from real interest and confidence to fear, anxiety, and avoidance. These different attitudes are critically important in shaping how learners approach mathematical tasks, respond to challenges and perform academically.

Several factors, such as students' attitudes towards Mathematics, teachers' instructional practices, and the school environment, affect students' learning and performance in Mathematics (Mazana et al., 2018). Students initially have a positive attitude towards Mathematics, but this attitude becomes less positive as they progress to higher levels of education. Enjoyment of Mathematics and students' attitudes are both important predictors of their performance. Students' liking of Mathematics is influenced by their ability, teaching and social-psychological context. Moreover, poor test results are related to teachers' instructional methods, a lack of institutional resources, ineffective learning and testing strategies, and difficulties understanding instructions.

Studies about Filipino localities also present evidence regarding the association of attitudes toward Mathematics among students and their academic achievement. Umal et al. (2024) carried out a study to explore the association between attitudes of students toward Mathematics and their academic achievement in the said subject. The study used a descriptive-correlational research design with the theoretical framework of Expectancy-Value Theory to look into the association between attitudes toward Mathematics and academic performance. There was a significant positive correlation. The findings underscore the importance of developing positive attitudes and reducing anxiety to improve Mathematics achievement, thereby advancing educational development in the region. Another study on students' attitudes and self-efficacy towards Mathematics in the Philippines was done by Laranang and Bondoc (2020). The results indicated that students who feel more confident and have positive attitudes towards Mathematics are more prone to achieve better academic results in Mathematics.

Some studies have looked at the impact of attitudes towards Mathematics amongst students and their academic performance. From such studies, it has been shown that students tend to develop positive attitudes when learning Mathematics because of its practical usefulness and relevance to life situations. In other words, most studies have considered the attitudes and achievements of students without fully investigating how these factors influence learning in specific settings. Additionally, studies have been carried out in diverse settings and among different populations, and thus the results obtained may not necessarily represent those of specific settings.

There are many studies about the relationship between students' attitude towards Mathematics and academic performance, but there are still gaps in the literature. Sabanal et al. (2024), and Quimbo (2025) concluded that the attitude, whether confidence or interest, plays an important role in improving their academic performance. Nonetheless, their studies were focused on senior high school students only few studies have focused

specifically on junior high school students. This study seeks to fill this gap by focusing on students in grades 7-10.

Therefore, the main objective of the study was to examine the students' attitude towards Mathematics and their academic performance. In particular, the study aimed to determine students' attitudes towards Mathematics by examining their interest, confidence, and enjoyment of learning Mathematics, as well as the usefulness of Mathematics. The results of the present study may help educators to understand the significance of fostering positive attitudes toward Mathematics among students. Additionally, the results can serve as a basis for designing strategies, teaching approaches, or intervention programs to improve students' attitudes and academic achievement in Mathematics.

Research Questions

This study aimed to determine the relationship between students' attitudes toward Mathematics and academic performance of selected Junior High School students in one of the private schools in Negros Occidental for the school year 2025 - 2026.

Specifically, it sought to answer the following questions:

1. What is the demographic profile of Junior High School students in terms of sex and grade level?
2. What is the level of students' attitudes toward Mathematics when taken as a whole and when grouped according to the mentioned variables in the following areas:
 - 2.1 interest in the subject;
 - 2.2 confidence in learning Mathematics;
 - 2.3 perceived usefulness of Mathematics; and
 - 2.4 enjoyment of Mathematics lessons?
3. What is the level of academic performance of Junior High School students in Mathematics?
4. Is there a significant relationship between students' attitudes toward Mathematics and their academic performance when taken as a whole and when grouped according to the mentioned variables?

METHODOLOGY

This section explains the methods used in the study, including the research design, participants, locale, research instrument, data analysis, and data collection.

Research Design

This study utilized a descriptive-correlational research design to determine the relationship between students' attitudes toward Mathematics and their academic performance. According to Creswell (2014), correlational research is a quantitative method in which researchers measure the degree of association between two or more variables using statistical procedures. Similarly, Kerlinger and Howard (2000) explained

that descriptive-correlational studies aim to describe relationships among variables as they exist in real-life situations without any experimental manipulation.

The descriptive method was used to assess students' attitudes. At the same time, the correlational approach examined the extent to which these attitudes are associated with their academic performance in Mathematics.

Research Respondent and Locale

Participants in this research consisted of selected private junior high school students during the school year 2025-2026. To select participants, a random sampling strategy was used by employing a stratified approach wherein the subjects must be students who are currently taking up Mathematics subject. The research was carried out in one of the private schools in Victorias City, Negros Occidental.

Research Instrument

The primary instrument used in this study was a structured survey questionnaire designed to gather data on students' attitudes toward Mathematics and their academic performance.

The questionnaire consisted of two main parts. The first part focused on the respondents' demographic profile, including their names, sex, and final Mathematics grades. This information was used to describe the respondents and to determine their academic performance. The second part measured the students' attitudes toward Mathematics using a series of statements rated on a 5-point Likert scale, with responses ranging from Strongly Agree (5) to Strongly Disagree (1). This scale was used to assess respondents' agreement with each statement regarding their attitudes toward Mathematics.

In order to establish the validity of the test, Lawshe's Content Validity Ratio (CVR) was used in assessing the tool. Five (5) content experts evaluated the questionnaire, and the calculated CVR is 1.00, suggesting that all the items were necessary for the study.

For reliability testing, the instrument was administered to 30 non-study senior high school students. To test the reliability of the questionnaire, Cronbach's alpha was used and obtained a score of 0.944.

Data Analysis

To answer the research questions in this study, the following descriptive statistics were used.

For research question 1, which determined the profile of participants in terms of sex, grade level, frequency and percentage distributions were used.

For research question 2, which examined the level of students' attitudes toward Mathematics when taken as a whole and when grouped according to the mentioned variables, the mean and standard deviation were used. The following scale was used to interpret the mean.

| Range | Interpretation |
|--------------|-----------------------|
| 4.21 – 5.00 | Very High |
| 3.41 – 4.20 | High |
| 2.61 – 3.40 | Average |
| 1.81 – 2.60 | Low |
| 1.00 –1.80 | Very Low |

For research question 3, the level of academic performance of Junior High School students in Mathematics by sex and grade level, the mean and standard deviation were used. To interpret the academic performance, the following scale was utilized to interpret the mean.

| Range | Interpretation |
|--------------|-----------------------|
| 94.01-100.00 | Very High |
| 88.01-94.00 | High |
| 82.01-88.00 | Average |
| 76.01-82.00 | Low |
| 70.00-76.00 | Very Low |

The Pearson correlation coefficient was used for problem 4 to determine the significant relationship between students' attitudes toward Mathematics and participants' Mathematics academic performance.

Statistical Treatment

Statistical tools were used to analyze the gathered information. Frequency and percentage were used in describing the demographic profile of the respondents. Students' attitude towards Mathematics was evaluated using the mean and standard deviation. For testing the significance of the relation of students' attitudes towards their academic achievements, Pearson Product Moment Correlation Coefficient (r) was utilized.

Data Gathering Procedure

The permission for carrying out the research was granted by the school principal prior to undertaking the research. The research instrument was then administered to the respondents. The purpose for conducting the study was fully elaborated to obtain valid answers. Data obtained through the administration of the questionnaire were then tabulated and analyzed statistically.

RESULTS AND DISCUSSION

This section presents the results of the study, interpreting the findings in relation to the research objectives

Profile of the Participants

Table 1 shows that 77 (39.70%) participants were male and 117 (60.30%) were female. On the other hand, 49 (25.30%) were Grade 7, 47 (24.20%) were Grade 8, 47 (24.20%) were Grade 9, and 51 (26.30%) were Grade 10.

Table 1
Profile of the Participants

| Profile | | Frequency | Percentage |
|-------------|----------|-----------|------------|
| Sex | Male | 77 | 39.70 |
| | Female | 117 | 60.30 |
| | Total | 194 | 100.00 |
| Grade Level | Grade 7 | 49 | 25.30 |
| | Grade 8 | 47 | 24.20 |
| | Grade 9 | 47 | 24.20 |
| | Grade 10 | 51 | 26.30 |
| | Total | 194 | 100.00 |

The Level of Students' Attitudes toward Mathematics as a Whole

Table 2 shows that students' overall attitudes toward Mathematics are High ($M = 3.98$, $SD = 0.76$). However, when each variable was considered, the student's perceived usefulness of Mathematics ($M = 4.25$, $SD = 0.71$) is Very High. Meanwhile, interest in Mathematics ($M = 4.00$, $SD = 0.71$), enjoyment of Mathematics lessons ($M = 4.07$, $SD = 0.74$), and confidence in learning Mathematics ($M = 3.59$, $SD = 0.87$) are all interpreted as High.

The results show that the perceived usefulness of Mathematics has the highest mean among all variables. This means that students are very aware of the importance and usefulness of Mathematics in their daily lives, which positively affects their motivation and learning. Recent studies have shown that students' attitudes towards Mathematics, especially their perceptions of its usefulness, strongly influence their motivation and academic success (Hernández de la Hera et al., 2023). When students view Mathematics as meaningful and applicable, they exhibit more positive learning behaviors.

On the other hand, the lowest mean is confidence in learning Mathematics, but still in a high level. Some students may still have doubts about their mathematical abilities. Research shows that Mathematics self-efficacy or confidence is strongly associated with students' motivation, persistence, and achievement in Mathematics (Street et al., 2024). Moreover, self-efficacy acts as a mediating factor in improving students' performance implying that students with greater confidence are more likely to excel in Mathematics tasks (Djekourmane et al., 2025).

Overall, the results suggest that students have a generally positive attitude towards Mathematics, especially in recognizing its usefulness. However, there is still room to build students' confidence, further improving their overall attitudes and learning outcomes in Mathematics.

Table 2
Level of Students' Attitudes toward Mathematics as a Whole

| Variables | Mean | Interpretation | SD |
|-------------------------------------|------|----------------|------|
| Interest in Mathematics | 4.00 | High | 0.71 |
| Confidence in Learning Mathematics | 3.59 | High | 0.87 |
| Perceived Usefulness of Mathematics | 4.25 | Very High | 0.71 |
| Enjoyment of Mathematics Lessons | 4.07 | High | 0.74 |
| As a whole | 3.98 | High | 0.76 |

Note: The mean scores are interpreted as follows: 1.00-1.80 (Very Low); 1.81-2.60 (Low); 2.61-3.40 (Average); 3.41-4.20 (High); 4.21-5.00 (Very High)

The Level of Students' Attitudes toward Mathematics according to Sex

Table 2.1 shows students' attitudes toward Mathematics, grouped by sex. Overall, students' attitudes toward Mathematics are high among males ($M = 3.91$, $SD = 0.75$) and females ($M = 4.02$, $SD = 0.76$). Specifically, the level of interest in Mathematics among males ($M = 3.96$, $SD = 0.72$) and females ($M = 4.02$, $SD = 0.71$) is High. The level of confidence in learning Mathematics among males ($M = 3.60$, $SD = 0.88$) and females ($M = 3.57$, $SD = 0.86$) is also High.

On the other hand, the level of perceived usefulness of Mathematics among males ($M = 4.09$, $SD = 0.66$) is High, while among females ($M = 4.36$, $SD = 0.72$) it is Very High. Furthermore, the level of enjoyment of Mathematics lessons among males ($M = 4.00$, $SD = 0.74$) and females ($M = 4.12$, $SD = 0.75$) is High.

The results indicate that students regardless of gender have a positive attitude towards Mathematics. Furthermore, the results show that there is no significant difference in students' attitudes towards Mathematics between male and female students, as both groups are categorized as high in most variables. Females have slightly higher mean scores, especially in perceived usefulness, but the two groups do not differ significantly in their overall responses.

This is also corroborated by recent research which suggests that the gender gap in attitudes to Mathematics among students is narrowing and that male and female students are reporting similar levels of interest, enjoyment and perceived value of Mathematics (OECD, 2023). Liu and Wilson (2024) also investigated sex differences in students' attitudes and self-beliefs in Mathematics. They found that some small differences exist, but overall, students' attitudes and self-beliefs in Mathematics are similar across sex, especially in supportive learning environments. In addition, Zhang et al. (2023) reported that the influence of self-efficacy and perceived usefulness on students' attitudes and performance is greater than the effect of gender.

Table 2.1
Level of Students' Attitudes toward Mathematics according to Sex

| Variables | Sex | Mean | Interpretation | SD |
|-------------------------------------|--------|------|----------------|------|
| Interest in Mathematics | Male | 3.96 | High | 0.72 |
| | Female | 4.02 | High | 0.71 |
| Confidence in Learning Mathematics | Male | 3.60 | High | 0.88 |
| | Female | 3.57 | High | 0.86 |
| Perceived Usefulness of Mathematics | Male | 4.09 | High | 0.66 |
| | Female | 4.36 | Very High | 0.72 |
| Enjoyment of Mathematics Lessons | Male | 4.00 | High | 0.74 |
| | Female | 4.12 | High | 0.75 |
| As a whole | Male | 3.91 | High | 0.75 |
| | Female | 4.02 | High | 0.76 |

Note: The mean scores are interpreted as follows: 1.00-1.80 (Very Low); 1.81-2.60 (Low); 2.61-3.40 (Average); 3.41-4.20 (High); 4.21-5.00 (Very High)

The Level of Students' Attitudes toward Mathematics according to Grade Level

Table 2.2 presents students' attitudes toward Mathematics by grade level. As shown as a whole, the level of students' attitudes toward Mathematics among Grade 7 (M = 4.02, SD = 0.75), Grade 8 (M = 3.94, SD = 0.73), Grade 9 (M = 3.86, SD = 0.82), and Grade 10 (M = 4.08, SD = 0.72) is High. This indicates that students across all grade levels generally exhibit positive attitudes toward Mathematics.

In terms of interest in Mathematics, all grade levels show high levels, with mean scores ranging from 3.83 to 4.10. For confidence in learning Mathematics, Grade 7, 9, and 10 students show a high level, while Grade 8 students exhibit an average level. Meanwhile, perceived usefulness of Mathematics is rated very high in Grades 7, 8, and 10, and high in Grade 9. This suggests that most students strongly recognize the importance and applicability of Mathematics in real life. On the other hand, enjoyment of Mathematics lessons is high across all grade levels, except for Grade 10, which reaches a very high level.

As shown in the table, perceived usefulness of Mathematics was the indicator that received the highest ratings among the four indicators, especially in Grades 7, 8 and 10, meaning that students place great importance on Mathematics as relevant and useful to their daily lives and future goals. The other indicators (interest, confidence, and enjoyment) are also consistently in the high range, indicating an overall positive predisposition towards the subject.

The results are in line with the study by Attard (2012), which found that students' positive attitudes towards Mathematics, such as interest and perceived usefulness, have a significant impact on their engagement and achievement in the subject. Likewise, the OECD (2019) found that students with a positive attitude towards Mathematics and who perceive its usefulness are more likely to achieve higher levels of performance and maintain their motivation to learn.

Moreover, among all the indicators, perceived usefulness of Mathematics obtained the highest mean ($M = 4.35$, $SD = 0.61$) in Grade 8. This implies that students at this level have a strong appreciation of the relevance of Mathematics. According to Hannula (2012), students' beliefs about the usefulness of Mathematics play an important part in determining their motivation and persistence in learning mathematical concepts. When students perceive Mathematics as meaningful, they are more likely to develop positive attitudes and actively participate in learning activities.

Table 2.2
Level of Students' Attitudes Toward Mathematics According to Grade Level

| Variables | Grade Level | Mean | Interpretation | SD |
|-------------------------------------|-------------|------|----------------|------|
| Interest in Mathematics | 7 | 4.10 | High | 0.73 |
| | 8 | 3.99 | High | 0.69 |
| | 9 | 3.83 | High | 0.78 |
| | 10 | 4.05 | High | 0.65 |
| Confidence in Learning Mathematics | 7 | 3.61 | High | 0.83 |
| | 8 | 3.35 | Average | 0.95 |
| | 9 | 3.61 | High | 0.82 |
| | 10 | 3.74 | High | 0.84 |
| Perceived Usefulness of Mathematics | 7 | 4.34 | Very High | 0.67 |
| | 8 | 4.35 | Very High | 0.61 |
| | 9 | 4.06 | High | 0.85 |
| | 10 | 4.27 | Very High | 0.66 |
| Enjoyment of Mathematics Lessons | 7 | 4.02 | High | 0.75 |
| | 8 | 4.06 | High | 0.66 |
| | 9 | 3.95 | High | 0.83 |
| | 10 | 4.24 | Very High | 0.71 |
| As a Whole | 7 | 4.02 | High | 0.75 |
| | 8 | 3.94 | High | 0.73 |
| | 9 | 3.86 | High | 0.82 |
| | 10 | 4.08 | High | 0.72 |

Note: The mean scores are interpreted as follows: 1.00-1.80 (Very Low); 1.81-2.60 (Low); 2.61-3.40 (Average); 3.41-4.20 (High); 4.21-5.00 (Very High)

Mathematics Performance of the Participants

Table 3 presents the level of Mathematics performance of Junior high school students, grouped by sex. As a whole, the Mathematics performance of junior high school students ($M = 89.04$, $SD = 4.93$) is High. The level of Mathematics performance among females ($M = 90.63$, $SD = 4.75$) is High, while that among males ($M = 87.44$, $SD = 5.10$) is Average.

The results indicate that the female students in this group scored slightly higher than the male students in Mathematics. This is consistent with the finding that female students are more self-regulated and persistent in completing STEM-related tasks (Salikutluk & Heyne, 2021), supporting the alignment with female academic superiority in some contexts. However, in a number of respects, this conclusion is similar to that of the research conducted by Li and Chen (2023) that revealed how, despite the gender gap in mathematical performance becoming less prominent all over the world, there exist specific situations where girls prove better than boys because of their greater degree of engagement and diligence while studying. At the same time, this research contradicts those stereotypes which used to favor male academic achievement in the past (Stoet & Geary, 2022).

Table 3
Mathematics Performance According to Sex

| Sex | Mean | Interpretation | SD |
|--------|-------|----------------|------|
| Male | 87.44 | Average | 5.10 |
| Female | 90.63 | High | 4.75 |
| Total | 89.04 | High | 4.93 |

Note: The mean scores are interpreted as follows: 70.00-76.00 (Very Low); 76.01-82.00 (Low); 82.01-88.00 (Average); 88.01-94.00 (High); 94.01-100.00 (Very High)

Table 3.1 shows that total Mathematics performance by grade level (M = 89.36, SD = 4.92) is High. Additionally, the Mathematics performance according to Grade 10 students (M = 90.39, SD = 4.00), Grade 9 students (M = 90.98, SD = 4.07), and Grade 8 students (M = 88.51, SD = 5.68) is High. On the other hand, Grade 7 students' Mathematics performance (M = 87.57, SD = 5.93) is Average.

From this table, it is clear that the performance of the higher grades (Grade 8, Grade 9, and Grade 10) is better compared to the performance of Grade 7 students. The positive relationship demonstrates that as one progresses in the spiral model of learning, his/her basic understanding improves, hence he/she performs better in difficult subjects. An example of this is the work of Hansen et al. (2021), who observed that mathematical proficiency typically exhibits a nonlinear yet growing development from early to late junior high school. This is consistent with Nurlu's (2023) study, which found that cognitive development and increased exposure to challenging problem-solving techniques in higher grades significantly improve performance scores compared to the transition phase in lower grades.

Table 3.1
Mathematics Performance According to Grade Level

| Grade Level | Mean | Interpretation | SD |
|-------------|-------|----------------|------|
| Grade 7 | 87.57 | Average | 5.93 |
| Grade 8 | 88.51 | High | 5.68 |
| Grade 9 | 90.98 | High | 4.07 |
| Grade 10 | 90.39 | High | 4.00 |
| Total | 89.36 | High | 4.92 |

Note: The mean scores are interpreted as follows: 70.00-76.00 (Very Low); 76.01-82.00 (Low); 82.01-88.00 (Average); 88.01-94.00 (High); 94.01-100.00 (Very High)

Relationship between Students' Attitudes toward Mathematics and Mathematics Performance

Table 4 shows the relationship between students' attitudes toward Mathematics and their Mathematics performance among junior high school students. Overall, $r = 0.262$ and $p < .001$. Since the p-value is less than 0.05, there is a significant positive relationship between students' attitudes and their Mathematics performance.

Specifically, it is determined that there is a significant relationship between Mathematics performance and all the identified dimensions of attitude, namely, interest in Mathematics ($r=0.151$, $p=.035$), confidence in learning Mathematics ($r=0.201$, $p=.005$), perceived usefulness of Mathematics ($r=0.251$, $p<.001$), and enjoyment of Mathematics lessons ($r=0.268$, $p<.001$). It is important to highlight that all variables show a positive correlation with the Mathematics ability of students. Therefore, children will be more proficient in mathematics if they have higher levels of positive attitudes like interest, confidence, and enjoyment. Similar results were observed by Burić and Kim (2020) and Foley et al. (2021), who discovered that students' motivation, self-assurance, and favorable opinions about mathematics have a big impact on their academic success.

There is a positive correlation between students' attitude toward Mathematics and their achievement in Mathematics. This aligns with psychological research showing that affective factors are central to cognitive achievement. These findings lend further support to the idea that cultivating a positive learning mindset can lead to improved academic outcomes. By contrast, students who see less usefulness in Mathematics or lack confidence tend to do worse. Thus, it is important to raise student engagement and interest to improve mathematical proficiency. This aligns with the findings of Camacho-Miñano and Del Campo (2022), who underlined that students who enjoy Mathematics classes and regard the subject as valuable are more likely to display better performance and commitment in learning.

Table 4
Relationship between Students' Attitudes Toward Mathematics and Mathematics Performance

| Variables Correlated | N | R | p |
|---|-----|----------|--------|
| Interest in Mathematics and Mathematics Performance | 194 | 0.151* | .035 |
| Confidence in Learning Mathematics and Mathematics Performance | 194 | 0.201** | .005 |
| Perceived Usefulness of Mathematics and Mathematics Performance | 194 | 0.251*** | < .001 |
| Enjoyment of Mathematics Lessons and Mathematics Performance | 194 | 0.268*** | < .001 |
| As a whole | 194 | 0.262*** | < .001 |

Note: Correlation is significant at $p \leq 0.05$.

Conclusions

Based on the findings, the researchers conclude that Junior High School students have a generally positive attitude toward Mathematics, specifically recognizing its high perceived usefulness in their daily lives. Notably, sex does not appear to be a significant barrier to positive disposition or performance, as both male and female students consistently demonstrated "High" levels of interest, confidence, and enjoyment. However, Grade Level has a significant impact on academic results. At the same time, attitudes don't change over time; students' performance in Mathematics seems to improve as they move from Grade 7 to higher Junior High School levels. This implies that the spiral curriculum, over time, successfully supports performance growth and enhances cognitive development.

Moreover, there is a strong positive relationship between students' attitudes and their academic achievement as well. Hence, it can be concluded that academic achievements in Mathematics increase directly depending on the degree of students' interest, confidence, and enjoyment of the course. In order to sustain high levels of academic success through students' positive attitudes throughout all grade levels, emphasis should be placed on increasing students' interest and confidence while studying this discipline.

Recommendations

The study recommends that teachers should focus on making Math enjoyable and useful. Teachers should use real-world examples and activities to boost students' confidence, especially those who are anxious about numbers, since "perceived usefulness" and "enjoyment" are highly associated with higher grades.

The students are encouraged to maintain their positive attitudes toward Mathematics, especially their interest, enjoyment, and recognition of its usefulness. Through regular use of problem-solving techniques, involvement in class activities, and asking for help when needed, they should actively develop their confidence. Their performance in Mathematics will improve much more if they adopt a growth mentality.

Parents can help their children learn by encouraging good study habits and providing a supportive learning environment at home. They can also encourage their children to see Mathematics as a useful and worthwhile subject. This may help to improve both attitude and performance.

The school administrators may develop and implement programs or interventions to improve students' confidence in Mathematics, particularly at lower grade levels such as Grade 7, where performance is relatively lower.

The researchers themselves may use the findings of this study as a guide in developing effective teaching strategies that nurture students' interest, confidence, and enjoyment in Mathematics. This will help them become more effective educators in the future.

Future researchers may conduct similar studies with a wider range of variables to further explore the factors affecting students' attitudes and performance in Mathematics. They can also consider other measures of academic achievement than grades and investigate intervention programs that can effectively enhance students' confidence and general attitude towards Mathematics.

Compliance with Ethical Standards

This study adhered to established ethical standards in conducting research involving human participants. Permission was secured from the school administration before data collection, and participation was strictly voluntary. The respondents were informed about the purpose of the study to ensure that they fully understood their involvement and their right to withdraw at any time without penalty.

In order to ensure that there is confidentiality and anonymity of all the research subjects, the researchers safeguarded their identity and used the collected information for academic purposes only. The information was collected and analyzed objectively and without any distortion. The ethical principles of respecting individuals, doing good to people, and ensuring justice were applied in conducting the research.

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