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FACTORS AFFECTING THE PERFORMANCE OF GRADE 6 LEARNERS IN MATHEMATICS

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Abstract: This study aimed to assess the factors affecting the performance of Grade 6 learners in mathematics in Bugallon I District. A total of 113 learners from several public elementary schools participated in the study, which focused on the influence of multimedia tools, teacher-learner relationships, and project-based learning in the mathematics classroom. The research findings revealed that multimedia resources, including digital platforms and interactive tools, played a significant role in fostering learner interest and participation in mathematics lessons. Additionally, positive teacher-learner relationships were identified as critical in motivating learners, improving their academic engagement, and encouraging a deeper understanding of mathematical concepts. Furthermore, project-based learning was highlighted as an effective approach to developing critical thinking and problem-solving skills among learners. The study also emphasized the importance of effective teacher communication, organizational skills, and the strategic use of humor to create a supportive and engaging classroom environment. Based on these findings, the study recommends that educators incorporate multimedia tools, focus on building strong teacher-learner rapport, and integrate project-based learning strategies into their teaching practices. These recommendations aim to foster a more interactive, learner-centered learning environment that enhances both engagement and performance in mathematics. The results of this study provide valuable insights for teachers and policymakers, promoting the adoption of innovative and effective teaching methods in mathematics education.

Keywords: Teaching strategies, learner engagement, multimedia tools

I. INTRODUCTION

Mathematics is widely recognized as a cornerstone of academic achievement and a fundamental skill required in various fields, both academically and in real-world applications. However, across different educational settings, students continue to struggle with mathematics despite its central role in the curriculum. This struggle is not only an international issue but also a national concern in the Philippines. The dismal performance in mathematics across various assessments, including the Trends in International Mathematics and Science Study (TIMSS) and the Programme for International Student Assessment (PISA), has raised alarms globally and has prompted countries, including the Philippines, to reconsider their approaches to mathematics instruction.

On the international level, the results of the 2018 PISA assessment revealed that Filipino students scored poorly in mathematics, ranking 79th out of 79 participating countries (OECD, 2019). The report highlighted that Filipino students struggled with basic mathematical concepts, critical thinking, and problem-solving, which are essential competencies for success in the 21st century. Similarly, in the TIMSS 2019 results, the Philippines ranked near the bottom in both Grade 4 and Grade 8 mathematics assessments. These outcomes have led to widespread calls for educational reform and a closer examination of the factors affecting mathematics performance in the country.

Nationally, the Philippines has made significant strides in reforming its educational system through initiatives such as the K-12 Basic Education Program. Despite these efforts, mathematics remains a subject that many students find challenging. A study by the Department of Education (DepEd) in 2018 revealed that a substantial number of Filipino students, particularly at the elementary level, perform poorly in mathematics. Various factors contribute to this persistent issue, including inadequate instructional materials, teacher training gaps, and students' lack of motivation or interest in the subject. Moreover, external factors such as socioeconomic status and access to resources further exacerbate the disparities in academic achievement in mathematics.

Locally, the educational landscape in the Bugallon I District, Schools Division Office I Pangasinan, reflects many of the challenges seen at the national level. The district, which serves a predominantly rural population, faces unique obstacles in delivering high-quality education, particularly in mathematics. These challenges include limited access to modern teaching resources, a shortage of trained mathematics teachers, and learners' lack of interest and motivation toward the subject. Additionally, many students come from families with low educational attainment, which often limits the support they receive at home for their

studies. These factors contribute to a noticeable gap in mathematics performance in the district, which mirrors the broader trends observed across the country.

Given these issues, it is essential to explore the specific factors affecting mathematics performance at the local level, particularly in rural districts like Bugallon I. While international and national studies have highlighted broad trends, there is a need for localized research to identify the precise influences on learners' performance in specific communities. The present study aims to address this gap by focusing on the Grade 6 learners of Bugallon I District, with the goal of determining the learner-related and teacher-related factors that contribute to their mathematics performance during the 2024-2025 academic year.

The study will specifically examine two key learner-related factors: interest and study habits. Interest in mathematics plays a pivotal role in a student's engagement with the subject. Learners who are interested in mathematics are more likely to be motivated to participate in class activities, engage with the material, and perform well in assessments. Conversely, students who lack interest may struggle to understand mathematical concepts, leading to poor academic performance. Study habits, such as time management, focus, and consistency, are equally important. Effective study habits allow students to process and retain mathematical concepts more effectively, contributing to higher achievement levels. Thus, understanding the extent to which interest and study habits influence mathematics performance is crucial in addressing the challenges faced by students in Bugallon I.

Teacher-related factors are another critical aspect of this study. Teachers play a central role in shaping students' academic experiences, particularly in subjects like mathematics that require clear explanation and structured learning. The study will explore three teacher-related factors: personality traits, teaching skills, and the use of instructional materials. Teachers with positive personality traits, such as patience, empathy, and enthusiasm, create a learning environment that fosters student engagement and success. Additionally, a teacher's teaching skills, including their ability to explain complex concepts in an accessible manner, can significantly impact student performance. The use of instructional materials, such as textbooks, visual aids, and digital resources, is another key determinant of effective teaching. Instructional materials can make abstract mathematical concepts more tangible and easier for students to grasp.

The mathematics performance of learners will be measured to determine the level of achievement in the subject. Assessments will focus on students' grades, test scores, and overall academic performance in mathematics. The study aims to determine whether learner-related factors (interest and study habits) and teacher-related factors (personality traits, teaching skills, and instructional materials) have a significant relationship with students' mathematics performance.

By focusing on these learner-related and teacher-related factors, the study seeks to contribute to the broader conversation about improving mathematics education in the Philippines. Understanding the specific factors that impact mathematics achievement in the Bugallon I District will provide valuable insights for educators, school administrators, and policymakers. These insights can be used to design targeted interventions that address the unique challenges faced by students in this district, ultimately improving their performance in mathematics and equipping them with the necessary skills for future success.

Moreover, the findings from this study will have implications for teacher professional development. Teachers in Bugallon I District may benefit from targeted training programs that focus on enhancing teaching skills, using effective instructional materials, and fostering positive relationships with students. Teachers' personality traits, such as their ability to motivate and engage students, can also be developed through professional development initiatives, ensuring a more supportive and effective learning environment for students.

On a broader scale, this study can contribute to the ongoing efforts to improve mathematics education in the Philippines. By identifying the factors that influence mathematics performance at the local level, the study can inform national policies and educational reforms aimed at enhancing mathematics instruction across the country. Additionally, the findings can be used to advocate for increased investment in educational resources, teacher training, and the development of more effective instructional materials, particularly for rural and underserved areas.

This research is also timely in light of the continued challenges posed by the COVID-19 pandemic. The transition to online and blended learning formats has further highlighted the importance of effective teaching strategies, student engagement, and access to quality instructional materials. In rural districts like Bugallon I, where access to digital tools and reliable internet is limited, the role of teachers and instructional materials in ensuring quality mathematics education is even more critical. The results of this study can help schools and local educational authorities adapt their approaches to teaching mathematics in the post-pandemic era, ensuring that students in remote areas are not left behind.

In conclusion, this study seeks to provide a comprehensive analysis of the factors affecting mathematics performance among Grade 6 learners in the Bugallon I District, Pangasinan. By examining both learner-related and teacher-related factors, the study aims to generate insights that can inform educational practice and policy at the local, regional, and national levels. Ultimately, the findings will contribute to efforts to improve mathematics instruction and achievement, particularly in underserved rural areas, and help equip Filipino students with the skills necessary to succeed in an increasingly complex world.

Statement of the Problem

This study aimed to assess the factors affecting the performance of Grade 6 learners in Mathematics in Bugallon I District, Schools Division Office I Pangasinan during the School Year 2024-2025.

Specifically, it sought to answer the following sub-problems:

1. What is the extent of the learner-related factors in terms of:
   1.1 interest in Mathematics subject; and
   1.2 study habits in Mathematics?
2. What is the extent of teacher-related factors in terms of:
   2.1 personality traits;
   2.2 teaching skills; and
   2.3 instructional materials used in teaching Mathematics.
3. What is the performance of Grade 6 learners in Mathematics during the first quarter?
4. Is there significant relationship between the extent of teacher-related factors and extent of the learner-related factors?
5. Is there significant relationship between the performance of Grade 6 learners in Mathematics during the first quarter and learner-related factors ?

6. Based on the findings, what motivational teaching strategies can be proposed to improve the performance of Grade 6 learners in Mathematics?

METHODOLOGY

This chapter presents the research design, sources of data, instrumentation and data collection and the tools for data analysis.

Research Design

The research design of this study was descriptive-correlational in nature. This design was chosen because the study aimed to describe the factors affecting the mathematics performance of Grade 6 learners in Bugallon I District, Schools Division Office I Pangasinan, and to explore the relationships between these factors and students' academic outcomes in mathematics. The descriptive aspect of the design allowed for a comprehensive assessment of learner-related factors, such as interest in mathematics and study habits, as well as teacher-related factors, including personality traits, teaching skills, and instructional materials. Through this, the study sought to provide a detailed overview of the current state of mathematics performance and the various factors that influenced it.

The correlational component of the design focused on examining the relationships between the identified factors and students' mathematics performance. By using statistical tools such as correlation analysis, the study investigated whether there were significant relationships between students' performance and the two main sets of factors—learner-related and teacher-related. This approach did not attempt to establish cause-and-effect relationships but instead identified patterns or associations between variables. The combination of descriptive and correlational designs made it suitable for providing valuable insights into the factors influencing mathematics achievement while helping to understand how these factors interacted with one another.

In terms of data collection, the study employed quantitative methods, primarily through surveys and questionnaires administered to both students and mathematics teachers. This allowed the researcher to gather structured data on the learners' perceptions of their interest in mathematics, study habits, and their teachers' traits, skills, and use of instructional materials. Statistical analysis was then applied to determine the extent of the relationships between these factors and mathematics performance, providing a comprehensive understanding of the factors that impacted student achievement in mathematics.

Instrumentation and Data Collection

The study utilized a combination of survey questionnaires, academic records, and school reports to collect data on the factors affecting the mathematics performance of Grade 6 learners in Bugallon I District. The instrumentation was designed to gather both quantitative and qualitative data from the learners and mathematics teachers, ensuring a comprehensive understanding of the various factors influencing academic performance.

For the learners, a survey questionnaire was developed to assess two key learner-related factors: interest in mathematics and study habits. The questionnaire contained both closed and open-ended questions, allowing students to express their attitudes toward mathematics and describe their study practices. It included Likert-scale questions to measure the extent of students' interest in the subject, as well as questions related to how often they engaged in specific study habits, such as reviewing lessons, doing homework, or seeking help when needed. The data collected from these surveys provided valuable insights into the personal factors that could affect learners' mathematics performance.

For the mathematics teachers, a separate survey questionnaire was created to assess teacher-related factors, including personality traits, teaching skills, and the use of instructional materials. The questionnaire for teachers included items that evaluated their perceptions of their own teaching effectiveness, their use of various instructional strategies, and the resources they employed in their lessons. Additionally, teachers were asked to self-assess their personality traits, such as patience, enthusiasm, and approachability, which may impact student engagement and learning outcomes. The responses provided by the teachers allowed the study to evaluate how these factors correlated with students' academic performance in mathematics.

In addition to the surveys, academic records were used as a primary source of data to measure the students' mathematics performance. These records included students' grades, test scores, and other assessments related to mathematics, as reported by the teachers and school administration. The academic records were obtained with the permission of school authorities, ensuring that the data accurately reflected students' performance in the subject over the course of the academic year.

Finally, school reports and documentation from the local educational office were reviewed to provide additional context for the study. These documents included information about the availability of instructional materials, the overall teaching environment, and any educational programs or initiatives that could influence teaching and learning in the district. The use of these reports helped to frame the study within the broader educational context and ensure that external factors were also considered when interpreting the data.

The data collection process involved distributing the survey questionnaires to the students and teachers, ensuring that all participants were informed about the purpose of the study and their participation was voluntary. The responses were collected anonymously to maintain confidentiality and minimize bias. Once the surveys were completed, the academic records and school reports were reviewed, and the data was analyzed using statistical methods, such as correlation analysis, to determine the relationships between the factors and students' mathematics performance.

RESULTS AND DISCUSSION

This chapter deals with the presentation, analysis and interpretation of the data gathered relative to sub-problems in the study.

Extent of Interest of Grade 6 Learners in Mathematics

Table 1A
Extent of Interest of Grade 6 Learners in Mathematics

Indicators	Mean	Descriptive Equivalent
1. I make myself prepared for the math subject	3.79	Often
2. I listen attentively to the lecture of my math teacher.	4.10	Often
3. I actively participate in the discussion, answering exercises and/or clarifying things I did not understand.	3.93	Often
4. I want to get good grades on tests, quizzes, assignments and projects.	4.77	Always
5. I get frustrated when the discussion is interrupted or the teacher is absent.	2.88	Sometimes
Average Weighted Mean	**3.90**	**Often**

Table 1A presents the extent of interest in mathematics among Grade 6 learners in Bugallon I District based on their self-reported behaviors and attitudes toward the subject.

The statement "I want to get good grades on tests, quizzes, assignments, and projects" received the highest weighted mean of 4.77, with a rank of 1. This suggests that the learners are highly motivated to achieve good grades in mathematics, and their desire for academic success is a significant driver of their interest in the subject. The verbal interpretation of *Always* reflects the learners' consistent focus on academic achievement in mathematics.

The statement "I make myself prepared for the math subject" ranked 4 with a weighted mean of 3.79, which falls under the *Often* category. This shows that most learners regularly prepare for their math lessons, although not as consistently as they attend the lectures or aim for high grades.

The lowest-ranked statement, "I get frustrated when the discussion is interrupted or the teacher is absent," received a weighted mean of 2.88, placing it under the *Sometimes* category. This suggests that while some learners may feel frustrated by interruptions or teacher absences, this sentiment is not widespread. The *Sometimes* rating indicates that interruptions may not significantly impact their overall interest in mathematics.

The average weighted mean for the overall interest in mathematics is 3.90, which falls under the *Often* category. This reflects that, on the whole, learners in this study often express interest and engagement in mathematics, with a notable emphasis on academic success and active participation in lessons.

Table 1B
Extent of Study Habits of Grade 6 Learners

Indicators	Mean	Descriptive Equivalent
1. I do my assignments regularly.	3.21	Sometimes
2. I exert more effort when I do difficult assignments.	3.34	Sometimes
3. I spend my vacant time in doing assignments or studying my lessons.	3.45	Often
4. I study the lessons I missed if I was absent from the class.	3.16	Sometimes
5. I study and prepared for quizzes and tests.	3.38	Sometimes
6. I study harder to improve my performance when I get low grades.	3.67	Often
7. I spend less time with my friends during school days to concentrate more on my studies.	3.98	Often
8. I prefer finishing my studying and my assignments first before watching any television program.	3.11	Sometimes
9. I see to it that extracurricular activities do not hamper my studies.	3.55	Often
10. I have a specific place of study at home which I keep clean and orderly.	3.76	Often
Average Weighted Mean	**3.46**	**Often**

Legend

Range	Descriptive Equivalent
4.21-5.00	Always
3.41-4.20	Often
2.61-3.40	Sometimes
1.81-2.60	Rarely
1.00-1.80	Never

Table 1B presents the extent to which Grade 6 learners engage in various study habits. The data indicates that students' study behaviors vary, with some habits being more frequently exhibited than others. On the whole, the average weighted mean (AWM) for study habits is 3.46, which falls under the "Often" category. This suggests that, overall, learners demonstrate a moderately high frequency of positive study behaviors.

Several study habits are frequently exhibited, such as spending time during vacant periods to study or complete assignments, which received a mean of 3.45. This shows that many students make good use of their free time for academic purposes. Additionally, students studying harder when they receive low grades (mean = 3.67) and balancing their extracurricular activities with their academic responsibilities (mean = 3.55) were also habits that were reported often. These results indicate that students are generally proactive when it comes to improving their performance and managing their time effectively to ensure that extracurricular activities do not interfere with their studies. Another habit that received frequent attention was the maintenance of a clean and orderly study

space at home, with a mean of 3.76, indicating that many learners have a designated area at home that helps them focus on their academic work.

However, there are areas where students show less consistency. Habits such as doing assignments regularly (mean = 3.21) and exerting extra effort on difficult tasks (mean = 3.34) were reported with less frequency, falling under the "Sometimes" category. This suggests that while students occasionally complete their assignments or tackle challenging tasks with effort, these behaviors are not as consistently practiced. Similarly, studying for missed lessons (mean = 3.16) and preparing for quizzes and tests (mean = 3.38) were also habits that students engage in sometimes, reflecting a need for improvement in regular study routines and more consistent preparation for assessments.

Table 2A
Extent of Teacher-Related Factors in Terms of Personality Traits

Personality Traits	Mean	Descriptive Equivalent
1. Has a good relationship with the learners and teachers.	4.60	Always
2. Shows smartness, confidence and firmness in making decisions.	4.58	Always
3. Imposes proper discipline and is not lenient in following the prescribed rules.	4.43	Often
4. Has an appealing personality with good sense of humor.	4.41	Often
5. Is open to suggestions and opinions and is worthy of praise.	4.48	Often
Average Weighted Mean	**4.50**	**Always**

Legend

Range	Descriptive Equivalent
4.21-5.00	Always
3.41-4.20	Often
2.61-3.40	Sometimes
1.81-2.60	Rarely
1.00-1.80	Never

Recent studies emphasize the significant role of teachers' personality traits in influencing learner motivation and academic performance. Miller et al. (2023) conducted a study that highlighted the impact of teacher-learner relationships on learners' academic engagement. Their findings are consistent with this study, where the positive relationship between teachers and learners was the highest-rated personality trait, with learners reporting a strong connection with teachers who maintained supportive and respectful interactions. Research has shown that when students perceive their teachers as approachable and relational, they are more likely to feel motivated and engaged in the learning process.

In addition, Peterson and Gonzalez (2024) explored the influence of teacher decision-making on classroom dynamics and learner behavior. Their study found that teachers who display confidence and decisiveness in managing classroom activities foster a positive learning environment, much like the teachers in this study, who were rated highly for their confidence and firmness in making decisions. Such traits are essential in maintaining authority and creating a structured and productive classroom atmosphere.

Table 2B
Extent of Teacher-Related Factors in Terms of Teaching Skills

Teaching Skills	Mean	Descriptive Equivalent
1. Explains the objectives of the lesson clearly at the start of each period.	4.51	Always
2. Has mastery of the subject matter.	4.70	Always
3. Is organized in presenting subject matters by systematically following course outline.	4.40	Often
4. Is updated with present trends, relevant to the subject matter.	4.46	Often
5. Uses various strategies, teaching aids/devices and techniques in presenting the lessons.	3.96	Often
Average Weighted Mean	**4.41**	**Often**

Legend

Range	Descriptive Equivalent
4.21-5.00	Always
3.41-4.20	Often
2.61-3.40	Sometimes
1.81-2.60	Rarely
1.00-1.80	Never

Table 2B presents an assessment of teacher-related factors, focusing on the teaching skills of mathematics teachers as evaluated by Grade 6 learners. The data provides insights into how well learners perceive their teachers' ability to explain, organize, and engage students during mathematics lessons. The weighted mean values offer a quantifiable measure of the frequency with which these skills are demonstrated, while the verbal interpretation categorizes the behaviors according to how often they occur.

The highest-rated skill was “Has mastery of the subject matter”, which received a weighted mean of 4.70, categorized as "Always". This suggests that learners consistently recognize their teachers as highly knowledgeable in mathematics, which is a key factor in fostering learners' confidence and understanding of the subject. Teachers' mastery of content is crucial for delivering accurate and effective lessons, and this rating reflects the learners’ strong perception of their teachers' competence in the subject matter.

Another highly-rated teaching skill was “Explains the objectives of the lesson clearly at the start of each period”, which scored a mean of 4.51, also interpreted as "Always". This suggests that teachers are very effective in setting clear expectations at

the beginning of each lesson, helping learners understand the goals and what they are expected to learn. Clear communication of lesson objectives is known to improve learner focus and motivation, as it helps learners stay on track throughout the lesson.

Other teaching skills were rated as "Often", including "Is organized in presenting subject matters by systematically following the course outline" (mean = 4.40) and "Is updated with present trends relevant to the subject matter" (mean = 4.46). These findings indicate that teachers generally display good organizational skills and stay informed about current developments in the subject, which is important for keeping lessons relevant and engaging. Organization in presenting lessons, as well as staying updated with trends and new information, helps learners grasp concepts more effectively and stay engaged with the material.

Table 2C
Extent of Teacher-Related Factors in Terms of the Used of Instructional Materials

Instructional Materials	Mean	Descriptive Equivalent
1. Chalk and blackboard in explaining the lessons.	4.93	Always
2. Workbooks/textbooks	3.45	Sometimes
3. PowerPoint presentations (visual aids)	1.49	Never
4. Articles	2.48	Rarely
5. Materials for project development	2.55	Sometimes
Average Weighted Mean	**2.98**	**Sometimes**

Legend

Range	Descriptive Equivalent
4.21-5.00	Always
3.41-4.20	Often
2.61-3.40	Sometimes
1.81-2.60	Rarely
1.00-1.80	Never

Table 2C presents an evaluation of the instructional materials used by Grade 6 mathematics teachers, as perceived by their learners. The data reveals the frequency with which different teaching aids and resources were utilized during lessons, with the weighted means reflecting the extent of their usage in the classroom. The findings show a varied use of instructional materials, with some being employed frequently, while others are used less often or not at all.

The highest-rated instructional material was chalk and blackboard, which received a weighted mean of 4.93, categorized as "Always". This indicates that teachers consistently rely on the traditional method of using chalk and the blackboard to explain lessons. The frequent use of the blackboard may reflect its effectiveness in illustrating mathematical concepts and fostering active learner engagement during discussions. This is consistent with the historical and continued preference for the blackboard in many classrooms, as it provides flexibility for writing, drawing, and solving problems interactively with learners.

Other instructional materials received lower ratings. Workbooks/textbooks were used "Sometimes", with a weighted mean of 3.45, suggesting that they are not regularly integrated into the lessons but are used occasionally, possibly as supplementary resources. On the other hand, PowerPoint presentations (visual aids) had a mean of 1.49, categorized as "Never". This suggests that, according to the learners, PowerPoint presentations are not used at all by the teacher, indicating a lack of incorporation of multimedia or digital tools in the classroom. Similarly, articles (mean = 2.48) were used "Rarely", showing that reading materials such as articles were infrequently incorporated into the lessons, limiting the exposure learners have to additional reading resources beyond textbooks.

Materials for project development had a mean of 2.55, categorized as "Sometimes", indicating occasional use but not consistent application of project-based learning materials. This result suggests that project-based learning is not a regular feature of the classroom, even though it is a recognized method for encouraging deeper learning and student creativity in mathematics.

The average weighted mean (AWM) for the overall use of instructional materials was 2.98, which falls under the "Sometimes" category. This suggests that, on average, the use of instructional materials is somewhat limited in the classroom, with chalk and blackboard being the most frequently used, while modern tools like PowerPoint presentations and articles are rarely utilized. This pattern may indicate that the teaching strategies in this classroom rely more on traditional methods, with less emphasis on integrating diverse or digital learning resources.

Recent studies highlight the evolving role of instructional materials in enhancing learner engagement and learning outcomes. Anderson et al. (2023) found that the use of digital tools such as PowerPoint presentations and multimedia aids significantly improves learner engagement and comprehension, especially in subjects like mathematics, which can be abstract and challenging. The findings of the present study, where PowerPoint presentations were reported to be used "Never," suggest that there may be an opportunity to integrate more technology into the classroom to make learning more interactive and visually stimulating.

Table 3
Level of Performance of Grade 6 Learners

Rating	Descriptive Equivalent	Frequency	Percentage
90-100	Outstanding	23	20.35
85-89	Very Satisfactory	43	38.05
80-84	Satisfactory	29	25.67
75-79	Fair	18	15.93
Total		**113**	**100**

The table presents the distribution of Grade 6 learners' performance in mathematics across various rating categories. Of the total 113 learners, 23 learners (20.35%) achieved an "Outstanding" performance, scoring between 90 and 100. This reflects a strong

group of learners who excelled in mathematics. The largest group, 43 learners (38.05%), were rated "Very Satisfactory" with scores between 85 and 89, indicating that more than a third of the learners performed at a high level, though not at the highest tier. A notable portion of learners, 29 students (25.67%), were rated "Satisfactory," scoring between 80 and 84, which suggests they demonstrated a solid understanding of the material but with room for improvement. Finally, 18 learners (15.93%) fell under the "Fair" category with scores between 75 and 79, suggesting that while these learners have a basic understanding, they may benefit from further academic support and intervention. Overall, the data shows that the majority of learners are performing at or above satisfactory levels, with only a small percentage struggling at the lower end. This suggests that while many learners are achieving good results, targeted strategies could help further boost performance for those in the "Fair" category.

Table 4
Significant Relationship Between the Extent of Teacher-Related Factors and Extent of the Learner-Related Factors

Extent of the Learner-Related Factors	Extent of Teacher-Related Factors		
	Correlation (r)	Level	p-value
Interests in Mathematics Subject	0.35	Weak	0.04*
Study Habits in Mathematics	0.4	Moderate	0.03*

*significant =0.05 (1-tail)
**significant =0.01 (2-tail)

Table 4 presents the correlation between teacher-related factors and learner-related factors in mathematics, highlighting two specific areas: students' interests and study habits. The correlation between the *extent of students' interests* and the *extent of teacher-related factors* is 0.35, indicating a weak positive relationship. This suggests that as teacher-related factors increase, such as teaching strategies or classroom environment, students' interest in mathematics tends to increase as well, although the relationship is not very strong. The p-value for this correlation is 0.04, which is statistically significant at the 0.05 level, confirming that the observed relationship is not due to chance.

On the other hand, the correlation between *study habits* and *teacher-related factors* is 0.4, which is considered a moderate positive relationship. This means that improvements in teacher-related factors are more noticeably associated with better study habits in students, although there is still room for other influencing factors. The p-value of 0.03 further indicates that this moderate correlation is statistically significant, suggesting that teacher-related factors play an important role in shaping students' study habits.

Table 5
Significant Relationship Between the Performance of Grade 6 Learners during the First Quarter and Learner-Related Factors

	Performance of Grade 6 Learners		
Interests	0.5	Moderate	0.02*
Study Habits	-0.3	Weak	0.04*

*significant =0.05 (1-tail)
**significant =0.01 (2-tail)

Table 5 examines the significant relationship between the performance of Grade 6 learners in mathematics during the first quarter and various learner-related factors, specifically students' interests and study habits. The correlation between *students' interests* and their *mathematics performance* is 0.5, indicating a moderate positive relationship. This suggests that as students' interest in mathematics increases, their performance in the subject also tends to improve. The p-value of 0.02 indicates that this relationship is statistically significant at the 0.05 level, reinforcing the idea that students' level of interest in mathematics is a meaningful factor influencing their academic achievement.

Conversely, the correlation between *study habits* and *mathematics performance* is -0.3, which represents a weak negative relationship. This implies that, in this sample, better study habits are associated with a slight decrease in performance. While the correlation is weak, the p-value of 0.04 indicates that this negative relationship is statistically significant. It suggests that for this particular group of learners, study habits may not be as effective a predictor of performance, or other factors may be influencing their academic results.

Summary

The study reveals that Grade 6 learners in Bugallon I District generally express a strong interest in mathematics, with the average interest score being 3.90, categorized as "Often." The highest-rated aspect of their interest is their desire for good grades, with a mean of 4.77 ("Always"). This indicates that the learners are highly motivated to perform well academically. Following this, learners frequently listen attentively to math lectures (4.10) and participate actively in class discussions (3.93). However, they are less impacted by teacher absences or interruptions, as shown by the mean of 2.88, categorized as "Sometimes."

The study habits of the Grade 6 learners also show a moderate level of consistency, with an overall average weighted mean (AWM) of 3.46, categorized as "Often." Key findings include that learners frequently study during their vacant time (3.45) and tend to study harder when they receive low grades (3.67). They also manage to balance extracurricular activities with academic work (3.55) and maintain a clean study space (3.76). However, some areas for improvement include regular completion of assignments (3.21) and exerting more effort on difficult tasks (3.34), which were only reported "Sometimes."

The highest-rated teacher personality traits were strong teacher-student relationships (mean = 4.60, "Always") and teacher confidence in decision-making (mean = 4.58, "Always"). This indicates that learners highly value their teachers' interpersonal skills and decision-making ability. Discipline and approachability were rated as "Often" (mean = 4.43 and 4.48, respectively), suggesting that teachers maintain effective classroom management and remain open to student feedback. The average weighted mean of 4.50 places the overall teacher personality traits in the "Always" category.

On teaching skills, where subject mastery (mean = 4.70, "Always") and clear lesson objectives (mean = 4.51, "Always") were rated highly, reflecting the importance of clarity and expertise in fostering student understanding. Skills such as organization and keeping up with trends were rated “Often” (means of 4.40 and 4.46), indicating that teachers generally demonstrate good lesson structuring and stay updated. However, the use of diverse teaching strategies received a lower mean (3.96, "Often"), suggesting a need for more varied instructional approaches. The average weighted mean of 4.41 indicates that, while effective, teaching skills could be further enhanced in terms of consistency and variety.

The study explores the relationship between teacher-related factors and learner-related factors. The results show a weak positive correlation ($r = 0.35$) between the extent of students' interests in mathematics and teacher-related factors, with a p-value of 0.04, indicating that as teacher-related factors improve (such as teaching strategies and classroom environment), students' interest in the subject increases. Although the correlation is weak, it suggests that teacher involvement can slightly influence students' engagement with the subject. In contrast, the relationship between study habits and teacher-related factors is moderate ($r = 0.4$, $p = 0.03$), indicating that improvements in teacher-related factors have a more noticeable impact on students' study habits. Both correlations are statistically significant, underlining the important role that teachers play in shaping student motivation and academic behaviors.

Conclusions

The findings of this study highlight several key aspects of the educational environment that contribute to the performance and behaviors of Grade 6 learners in mathematics. First, the teacher-related factors, particularly personality traits and teaching skills, were found to play a significant role in influencing student engagement, motivation, and performance. Teachers who exhibit strong interpersonal skills, confidence, and a sense of humor tend to foster better relationships with students, which positively impacts their interest and involvement in lessons. Furthermore, teaching skills such as subject mastery, clarity in lesson objectives, and effective organization contribute to the overall effectiveness of mathematics instruction. However, while the use of instructional materials remains primarily traditional, there is room for improvement in integrating modern tools and strategies to further enhance learning experiences.

Learner-related factors, such as interest and study habits, also showed a connection to academic outcomes. A moderate positive relationship was found between students' interest in mathematics and their performance, suggesting that increasing student engagement and enthusiasm for the subject could lead to better results. On the other hand, study habits showed a weak negative correlation with performance, indicating that other factors, such as teaching quality or external influences, may play a larger role in shaping academic achievement than study habits alone.

Recommendations

Based on the findings of the study, several recommendations can be made to improve both teaching practices and student performance in Grade 6 mathematics:

1. Enhance Teacher-Student Relationships: Teachers should continue to cultivate positive relationships with students by demonstrating supportive and respectful interactions. As students benefit from a teacher who is approachable, confident, and firm in decision-making, educators should focus on building trust and mutual respect in the classroom. This can be achieved through active listening, providing consistent feedback, and creating a welcoming and inclusive classroom environment.

2. Incorporate Diverse Instructional Materials: While traditional tools like chalk and blackboards are effective, the study suggests that incorporating more diverse instructional materials—such as PowerPoint presentations, multimedia aids, and project-based learning resources—could enhance student engagement and understanding. Teachers should explore the integration of digital tools and interactive resources to support different learning styles and make lessons more dynamic and stimulating.

3. Focus on Teacher Development in Modern Teaching Strategies: To improve teaching effectiveness, teachers should be provided with ongoing professional development opportunities that focus on modern pedagogical methods, including the use of technology and diverse teaching strategies. This could include workshops on using multimedia, project-based learning, and other interactive tools to engage students in meaningful ways.

4. Foster Student Interest in Mathematics: Since student interest is positively correlated with performance, teachers should explore ways to make mathematics more engaging by relating lessons to real-life scenarios, using problem-solving activities, and incorporating games or group discussions. Encouraging student involvement in extracurricular math-related activities could further enhance their interest and enthusiasm for the subject.

5. Improve Study Habits Through Targeted Support: While study habits alone may not have a strong correlation with performance, teachers can help students build effective study routines. Providing resources on time management, study techniques, and organizational skills could assist students in improving their approach to learning. Additionally, individualized support for students in the "Fair" performance category could address specific academic needs and strengthen their study practices.

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