

THE RELATIONSHIP BETWEEN COMPREHENSION SKILLS AND ACADEMIC PERFORMANCE IN MATHEMATICS

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ABSTRACT

The study aimed to know the relationship between comprehension skills and academic performance of students in Mathematics. The research involved 60 Grade 9 students from Catumbalon National High School who were enrolled in the academic year 2024-2025. Results revealed that show a moderate positive correlation between comprehension skills and academic performance in Mathematics. However, students' problem-solving ability was poor. On the other hand, students achieved a moderate to high level of comprehension skills. In addition, the significant relationship implies that interventions aimed at improving students' comprehension skills could also potentially enhance their mathematical achievement. Strengthening students' ability to understand, analyze, and interpret written information can have a direct and positive impact on their success in mathematics.

Keyword: *comprehension skills, academic performance in mathematics, correlational, relationship*

1. INTRODUCTION

Mathematics is one of the foundational subjects taught to children in school, and developing their reasoning, analytical, and problem-solving skills. It is a fundamental concept used in most academic subjects and real-life applications, providing students with a good reason to study it but the failure of students in math is a concern, given its significance in the overall academic performance of students. Although difficulties with mathematics are often connect to numerical ability, more recent studies show that comprehension skills also play a large role in a student's ability to learn math.

Mathematics performance in the Philippines is one of the concerns of the Department of Education. Mathematics is an important subject in school curriculum that forms a basic part of a student's intellectual development as well as future professional life but most students have problems with mathematics, which negatively impacts their academic performance. The state of high school students' mathematics achievement was reflected in international, national and regional mathematics test scores. Filipino students in the 2003 Trends in International Mathematics and Science Study (TIMSS) where the students were ranked 41st among 46 participants in mathematics prevailing at the very bottom while struggling at the passing mark locally. The performance of students in National

Achievement Test was even more alarming. There were only ten percent mastery of mathematics among fourth year students in 2003-2005.

The Programme for International Student Assessment (PISA) assesses the knowledge and skills of 15-year-old students in mathematics, reading and science, accordingly average of year 2022 is the same as in 2018 in mathematics, reading and science. Students in the Philippines scored less than the OECD average in mathematics, reading and science.

As discussed by PISA 2022 report of the Organization for Economic Co-operation and Development, Filipino students achieved an average of 355 point in mathematics, which mean that 16% of the students reached at least level 2 in mathematics proficiency. Almost no students in the Philippines were top performers in mathematics, meaning that they attained level 5 or 6 in PISA mathematics test. The same ratings were seen in comparison with the average of Filipino students in their reading proficiency in where they only achieved an average of 347 points that fell to below level 2 proficiency.

Mathematical comprehension skills, are also mixed subjects and are often required to interpret mathematical concepts and sentences in textbooks, assignments, and exams. A large number of mathematical concepts: algebra, geometry, calculus, to name just a few, demand

their students the understanding of abstract components and their use in multiple contexts. Struggling with comprehension in general may mean that students have difficulty following step-by-step procedures, understanding relationships between numbers, or knowing what mathematical symbols and formulas mean. This can make it more challenging for them to solve complex problems correctly, which can diminish their overall confidence for their mathematical skill set and lead them behind the curve in general academic success. Logical reasoning and critical thinking are yet another important factor that correlates comprehension skills with mathematics performance. Math is more than memorizing formulas and solving equations; it challenges students to think critically, identify patterns, and use logical reasoning. Mathematical comprehension skills help students break down problems into smaller parts, solve them, and explain their answers. For example, if a student doesn't comprehend well, he or she might repeat mathematical processes by rote, but not understand the rationale behind the operations, remaining at a superficial level rather than attaining deep understanding. So having an understanding of reading comprehension can, in turn, help a student engage in higher-order thinking and problem solving, which we know to be crucial for success with mathematics.

Mathematical performance extends beyond computational skills, encompassing conceptual understanding, problem-solving, and interpretation. Highlighting the importance of reading comprehension for solving mathematical word problems. The importance of language and comprehension in mathematics education has been recognized for decades. According to Hadian et al., 2021, early research explored the role of reading comprehension in solving mathematical word problems, recognizing that students' ability to understand the language and context of these problems significantly impacts their ability to solve them.

In addition to that, language fluency matters a lot for understanding math, too. Numerous mathematical words such as "sum," "product," "difference" and "mean" have technical meanings, which are different from those we use in everyday life. Language-Challenged students might not understand what they read but still have the words in their minds and an incorrect operation

with which might lead to failure in problem-solving. Additionally, math concepts are inherently written with conditional statements in mathematical problems, which demand the students to understand certain logical conditions. This opens the door for wrong reasoning and incorrect inferences if students do not have the required literacy skills to understand such statements. Providing instruction in the language behind the mathematics can assist students in developing a broader understanding of what the mathematics entails. It is not surprising that an investigation that we conducted found that the comprehension skills in reading have some positive relevance to the successful processing of mathematical information and knowledge. Examples include explicit teaching of math vocabulary, guided reading of word problems, and everyday examples that connect the abstract with the concrete. Repetition and practice: Having students explain their thinking, talk with other students, and use problem-solving strategies is another way to develop their understanding and critical thinking skills. These methods can be particularly beneficial for students who may struggle with traditional math teachings, providing them with the tools they need to be successful. This study investigates the relationship between comprehension skills and academic performance in math. By addressing the obstacles faced by students from limited comprehension and suggesting effective pedagogy, this study will improve student mathematical knowledge and enhance overall student learning.

Mathematical comprehension goes beyond simply being able to read numbers and symbols. It includes the ability to read and decipher word problems, develop an understanding of mathematical vocabulary, translate symbols and formulas, and carry out multi-step procedures correctly. In fact, without strong comprehension skills students might struggle to understand mathematical concepts, logically put on the correct operation and create logical connections between subjects. Even a mistake in reading instructions or understanding a problem can result in an incorrect solution when a student knows how to compute the answer. On the other hand, readers who can comprehend well quickly analyze the problem, determine relevant information, and apply adequate math principles, attaining higher order in mathematics. Comprehension

skills affecting how mathematics is performed can be seen most explicitly in solution of word problems. A lot of math problems are text based, and students need to read the problem, interpret it and decide on the correct operations. To avoid making mistakes in their solutions, students who do not comprehend well may not highlight key details in the problem, misinterpret instructions or miss important information altogether. In contrast, strong comprehension students are able to dissect word problems quickly and pattern, to logically solve and find the correct answer. Reading comprehension strategies should be incorporated into math instruction in order to aid students when tackling difficult problems, which this illustrates.

The growing body of research on the relationship between comprehension skills and mathematical performance has significant implications for educational practice. It highlights the need for integrated approaches to literacy and mathematics instruction, recognizing the interdependence of these two domains. It also emphasizes the importance of explicit instruction in reading comprehension strategies, mathematical vocabulary development, and cognitive skills training. By addressing these interconnected areas, educators can better support students in developing the comprehensive skills necessary for success in mathematics.

For these reasons, the researcher adheres to proceed with the study with the purpose of this study is to determine the relationship between the comprehension skills and academic performance in mathematics.

2. STATEMENT OF THE PROBLEM

This may be the main objective of the study: to find the correlation of comprehension skills and academic performance in mathematics among junior high school students. More specifically, it will try to answer the following questions:

1. What is the level of students' comprehension skills?
2. What is the level of students' academic performance in mathematics?
3. Is there a significant relationship between comprehension skills and their academic performance in mathematics?

3. METHODOLOGY

3.1 Research Design

This study employed a descriptive-correlational research design since it aims to analyze the relationship between comprehension skills and academic performance in mathematics. This design is appropriate as it allows the researcher to analyze patterns and determine if there are significant correlations without manipulating any variables.

3.2 Locale of the Study

The study was conducted in Catumbalon National High School. It is located in Purok 3, Barangay Catumbalon, Valencia City, Bukidnon. It was formerly an annex of Valencia National High School before becoming an independent national high school through an act approved on April 16, 2013, by the 15th Congress of the Republic of the Philippines. The school serves students from Catumbalon and nearby communities, offering secondary education in a rural setting.

3.3 Participants of the Study

The number of participants in the study involved 60 Grade 9 students of Catumbalon National High School who are officially enrolled in the school year 2024–2025. They were selected as participants because they represent the appropriate population for the study, sharing a similar academic level that ensures consistency and comparability of data. Moreover, Grade 9 students were chosen due to their accessibility to the researchers and their relevance to the research objectives, as their experiences and performance are directly aligned with the focus of the study. Their participation provides a reliable basis for gathering meaningful insights that can contribute to a better understanding of the topic being investigated.

3.4 Data Gathering Procedure

The data for this study was collected from 60 Grade 9 students at Catumbalon National High School. First, permission was sought from the school administration to conduct the study. After the approval, questionnaires were distributed to the students to assess their comprehension skills and academic performance in mathematics. The researcher has explained the purpose of the study and encouraged honest responses. After gathering all the necessary data, the researcher has

organized and analyzed the information using descriptive-correlational methods to determine the relationships between the variables. This procedure ensures a systematic and reliable data collection process.

3.5 Statistical Techniques

Data were analyzed using both descriptive statistics and Pearson's correlation coefficient. Descriptive statistics, including the mean, standard deviation, and range, were used to summarize and describe the central tendency and variability of students' scores in comprehension skills and mathematics performance. Using Pearson's correlation coefficient to measure the relationship between the two variables: comprehension skills and mathematics performance. The strength and significance of the correlation was determined whether the hypotheses are supported.

Meanwhile, the following methods was employed for scoring:

A. Comprehension Skills

Raw Score	Percentage Score	Qualitive Interpretation
20-24	90-100	Very High Comprehension Skills
18-19	85-89	High Comprehension Skills
16-17	80-84	Moderate Comprehension Skills
14-15	75-79	Low Comprehension Skills
13 and below	74 and below	Very Low Comprehension Skills

B. Technological Exposure

Raw Score	Percentage Score	Qualitative Interpretation
20-24	90-100	Very High Problem-solving Skills
18-19	85-89	High Problem-solving Skills
16-17	80-84	Moderate Problem-solving Skills
14-15	75-79	Low Problem-solving Skills
13 and below	74 and below	Very Low Problem-solving Skills

4. RESULTS AND DISCUSSION

Table 1. Summary of Level of Comprehension Skills

	Mean	SD	QUALITATIVE INTERPRETATION
Comprehension Skills	17.67	4.21	Moderate Comprehension Skills

Legend:

Raw Score	Percentage Score	Qualitive Interpretation
20-24	90-100	Very High Comprehension Skills
18-19	85-89	High Comprehension Skills
16-17	80-84	Moderate Comprehension Skills
14-15	75-79	Low Comprehension Skills
13 and below	74 and below	Very Low Comprehension Skills

The mean score of 17.67 suggests that, on average, students performed relatively well in the comprehension assessment. Considering that the maximum possible score is 24, the mean of 17.67 indicates that students achieved a moderate to high level of comprehension skills. The spread (standard deviation = 4.21) shows a moderate variability among the students' scores. This means that while many students performed around the average, there were some who scored significantly lower or higher. Additionally, the minimum score of 5.00 and maximum score of 24.00 suggest that there is a wide range of comprehension abilities among the students, from very low to excellent comprehension skills.

This implies that reading comprehension remains a relative strength for many learners and plays a crucial role in academic achievement. However, since a number of students still scored low, there is a clear implication that reading instruction must be differentiated, targeting the needs of struggling readers through interventions such as vocabulary enrichment, guided reading sessions, and comprehension strategy training. Moreover, comprehension should be integrated across subjects, not limited to English classes, to strengthen its application in various contexts.

According to Kamil et al. (2008) highlighted that reading comprehension among adolescents is not uniform and varies widely across student populations. Their research emphasizes that while many students can read fluently, a significant number struggle with understanding complex texts, pointing to a broad spectrum of comprehension abilities within classrooms. The authors advocate for continued, explicit instruction in reading strategies such as summarizing, questioning, and making inferences

to support learners at various skill levels. This supports the need for differentiated instruction that targets both high-achieving students and those needing additional support.

While, according to Brevik (2019) reading comprehension emphasizes that it is not solely the result of exposure to text but also depends heavily on the consistent and meaningful use of reading strategies in classroom instruction. She found that while explicit instruction in strategies is common, students often struggle to apply these independently. This supports the observed variability in the current study's results, where some students performed exceptionally well and others significantly lower. The broad range of scores (from 5.00 to 24.00) may reflect differing levels of strategic reading practice and comprehension engagement among students.

While Palacios (2017) underscores the impact of sustained teacher quality on student reading achievement. According to her study, long-term exposure to effective, high-quality instruction significantly enhances students' ability to comprehend texts at deeper levels. The average performance level of 17.67 in the current assessment aligns with Palacios' assertion that when quality instruction is in place, students tend to achieve moderate to high levels of reading comprehension. However, the variation in scores also suggests that differences in instructional consistency or teacher effectiveness may exist across student experiences. Additionally, these readers are often able to connect ideas across different parts of the text and apply what they read to real-life situations.

Although, Tomas et al. (2021) focuses on the cognitive and metacognitive factors influencing reading comprehension performance. Their study identifies vocabulary knowledge, inferencing ability, and self-monitoring as key predictors of comprehension success. This is consistent with the present findings, where the overall mean suggests solid performance, but the wide spread of scores indicates varying levels of these underlying skills among students. Tomas et al. argue that individual differences in these areas can lead to significant disparities in reading comprehension outcomes, which is reflected in the range observed in this study.

Table 2. Summary of Level of Performance in Mathematics

	Mean	SD	QUALITATIVE INTERPRETATION
Comprehension Skills	10.55	3.92	Very Low Problem-solving Skills

Legend:

Raw Score	Percentage Score	Qualitative Interpretation
20-24	90-100	Very High Problem-solving Skills
18-19	85-89	High Problem-solving Skills
16-17	80-84	Moderate Problem-solving Skills
14-15	75-79	Low Problem-solving Skills
13 and below	74 and below	Very Low Problem-solving Skills

Based on the data collected, students obtained an average score of 10.55 in the mathematics problem-solving assessment. Referring to the raw score interpretation scale, this mean score falls under the *“Very Low Problem-Solving Skills”* category. This suggests that, overall, the students are experiencing significant challenges in solving mathematical problems, and their current skill level in this area may be insufficient for higher-level math tasks. The relatively high standard deviation (3.92) also indicates a wide variation in students' performance, with some doing better than others.

The descriptive statistics show that students' problem-solving scores ranged from 3.00 to 19.00, with a mean of 10.55 and a relatively high standard deviation of 3.92, indicating varied levels of performance among learners. This wide spread supports the findings of Mji and Makgato (2006), who noted that students in under-resourced and low-performing schools often exhibit inconsistent mathematics performance due to a lack of foundational understanding, poor teaching strategies, and language barriers. The variability observed in this data may reflect such systemic issues, further emphasizing their point that educational interventions must be designed to address diverse student needs. Their findings revealed that learners' difficulties stemmed from several interrelated issues, including ineffective teaching strategies, inadequate teacher content knowledge, and the inability of teachers to complete the syllabus within the academic year.

These factors negatively impacted learners' understanding and engagement with mathematical content. Furthermore, the study identified indirect influences such as limited

parental involvement and language barriers, where learners struggled to comprehend mathematical concepts due to instruction being delivered in a language unfamiliar to them. The researchers emphasized the importance of improving teaching practices, enhancing teacher training, increasing parental involvement, and addressing language challenges to improve mathematics achievement among learners. According to the DepEd, in the 2018 Programme for International Student Assessment (PISA), most of the students performed below the average in math and did not reach the minimum proficiency level. The results indicated that Filipino 15-year-old students scored an average of 353 in mathematics, significantly below the Organization for Economic Co-operation and Development (OECD) average of 489, placing the country near the bottom among participating nations. This shows how performance in mathematics tend to be low in our country. The implication for educators and curriculum developers is the need to revise and reinforce problem-solving instruction in mathematics. This could include using real-world word problems, visual aids, step-by-step problem-solving techniques, and scaffolding strategies. Teachers may also need to assess not just the correctness of answers but how students approach solving problems.

In the context of the K-12 curriculum, Salimaco (2020) describes mathematics performance as a critical indicator of students' academic success, influenced significantly by their study habits and levels of mathematics anxiety. The study, conducted among 403 Grade 12 students across various academic strands at Davao Oriental State College of Science and Technology, revealed that students' mathematics achievement was positively correlated with effective study habits and negatively correlated with higher levels of mathematics anxiety. These findings suggest that regardless of their field of specialization, students who cultivate strong study routines and manage their anxiety towards mathematics tend to perform better in the subject. Salimaco emphasizes the importance of fostering positive study behaviors and creating supportive learning environments to enhance mathematics performance within the K-12 educational framework.

Llona & Tonga, 2020, who demonstrated that traditional classroom methods often lead to

unequal student engagement and achievement in mathematics. They advocated for the use of the flipped classroom approach to enhance conceptual understanding and performance consistency. The spread of scores in the current results supports their assertion that performance can vary significantly under traditional methods, but could potentially be stabilized through more learner-centered and interactive instructional models. The use of innovative instructional models has become increasingly important in addressing persistent challenges in mathematics education, particularly in enhancing student engagement, conceptual understanding, and problem-solving skills. One such approach is the flipped classroom model, which reverses traditional teaching by delivering instructional content outside of the classroom and focusing on active learning during class time. This strategy was found to be effective in improving mathematics performance among Grade 10 students, especially when lessons were designed to encourage collaboration and were grounded in students' cultural and real-life experiences. The model also proved adaptable to rural school settings with limited access to technology, as it utilized locally available resources to support instruction and learning.

In 2019, Cala conducted a study examining the factors influencing mathematics performance among students in the Balingasag Division of Misamis Oriental. The research focused on both teacher-related factors such as teaching strategies, competence, and attitudes and learner-related factors, including active learning, discovery learning, and knowledge-building approaches. The findings of the study indicated that these elements significantly affect students' academic performance in mathematics, highlighting the importance of effective teaching methods and student engagement in the learning process. Cala emphasized that both teacher-related elements such as instructional strategies and teacher competence and learner-related factors such as active participation and discovery learning, play a critical role in shaping academic performance in mathematics. The wide range in scores suggests that these factors may not be uniformly present across the sample, leading to disparities in outcomes. This supports Cala's recommendation for more targeted and consistent instructional practices to help elevate and equalize students' problem-solving skills in mathematics.

Nasayao and Goyena (2020) highlighted the critical role of comprehension and student engagement in solving mathematical problems effectively. They reported that when students lack the ability to decode and understand problem contexts, their performance tends to suffer. This supports their conclusion that strengthening comprehension and contextual understanding is essential to raising the overall quality and consistency of mathematics performance. It also emphasizes that mathematics performance significantly influences students' academic identity, emotional resilience, and future opportunities. Through in-depth qualitative interviews with high-achieving math students in Albay, the authors found that excelling in mathematics not only fostered a strong sense of self-efficacy but also served as a foundation for personal and academic motivation. Students reported that their achievements in math competitions enhanced their confidence and established their reputation among peers and educators, reinforcing a positive academic self-concept. Moreover, the authors highlighted that strong math performance opened pathways to scholarships, advanced academic programs, and national recognition opportunities that were especially transformative for those from underprivileged backgrounds. However, the study also revealed the psychological demands associated with high performance, such as pressure to maintain excellence and anxiety during competitions. Despite these challenges, the students demonstrated adaptive coping mechanisms, which the authors attribute to a combination of personal determination, parental encouragement, and mentorship from dedicated teachers. These findings underscore the multifaceted impact of mathematics performance on students, suggesting that academic success in math is not only a marker of cognitive ability but also a critical factor shaping students' life trajectories and emotional development.

A lot of efforts have been made to improve students' performance in mathematics. These studies looked into the different reasons why students often struggle with math and perform poorly, yet the result is still alarming.

Table 3. Relationship of Comprehension Skill and Academic Performance (Problem Solving)

	Pearson Correlation	Sig. (2-tailed)
Comprehension Skill	1**	.000
Problem Solving	.424**	.000

The present study sought to determine whether there is a significant relationship between students' comprehension skills and their academic performance in Mathematics. A Pearson Product-Moment Correlation was conducted to analyze the relationship between the two variables.

The results show a *moderate positive correlation* between comprehension skills and academic performance in Mathematics, with a correlation coefficient of $r = 0.424$. The *p-value* associated with this correlation is 0.001, which is *less than the standard significance level of 0.05* and even smaller than 0.01. This indicates that the relationship is *highly significant* statistically. This finding suggests that students with higher comprehension skills tend to perform better in Mathematics. Stronger reading comprehension appears to be associated with better problem-solving, understanding of mathematical word problems, and interpretation of mathematical instructions or concepts. Approximately 18% of the variance in Mathematics performance ($r^2 = 0.18$) can be explained by the students' comprehension skills. Although comprehension skills alone do not fully determine mathematics achievement, they contribute a meaningful part to students' overall performance. This finding suggests that success in math is not solely dependent on numerical skills, but also on a student's ability to understand problem statements, instructions, and contextual information. As such, math teachers should collaborate with language teachers to develop strategies that enhance comprehension within math instruction. For instance, teaching students how to decode problem statements, identify relevant details, and rephrase questions in their own words may improve both comprehension and problem-solving outcomes.

The observed positive correlation between comprehension and problem-solving skills aligns with the findings of Maandig et al. (2017), who emphasized the critical role of reading comprehension in solving mathematical word problems. Their study highlighted that student

often struggle with problem-solving tasks due to difficulties in understanding the language and context of the problems. This suggests that enhancing students' reading comprehension abilities can lead to improved problem-solving performance in mathematics.

While Richey et al. (2020) investigated how language skills influence word-problem performance among third-grade students with mathematics difficulties. They conducted a meta-analysis that underscored the strong association between reading comprehension and mathematical problem-solving skills. They found that students with higher reading comprehension levels tend to perform better in mathematics, particularly in tasks that require understanding complex problem statements. Their study found that mathematics-specific vocabulary knowledge significantly predicted students' ability to solve word problems, even when controlling for computation skills and bilingual status. This supports the current finding that comprehension skills are integral to effective problem-solving in mathematics.

Although, Peng and Lin (2018) explored the relationship between language comprehension and mathematics performance. Their research demonstrated that language comprehension significantly predicts success in mathematical problem-solving, as it enables students to interpret and process problem statements accurately. This reinforces the idea that developing language comprehension skills is essential for enhancing mathematical problem-solving abilities. Significantly, vocabulary related to measurement and geometry had a stronger impact on word problem-solving than vocabulary associated with numerical operations. However, mathematics vocabulary did not show a significant effect on calculation tasks. These findings suggest that mathematics vocabulary is not a single, uniform construct but comprises various subtypes that differently influence specific areas of mathematics achievement.

Although, Imam et al. (2013) investigated the correlation between reading comprehension skills and students' performance in mathematics. Their study revealed a significant positive relationship, indicating that students with better reading comprehension skills tend to achieve higher scores in mathematics. This finding corroborates the current result, emphasizing the importance of

reading comprehension in mathematical problem-solving.

Furthermore, Imam et al, 2013, discusses the influence of language proficiency on math test performance, particularly for students whose first language isn't the language of the test. This highlights how language barriers can create an additional hurdle for students, potentially masking their true mathematical abilities and negatively affecting their academic performance. Even when the tests themselves do not primarily assess language skill, the proficiency is needed to access the content. For example, specifically mentions the importance of language as a source of discrepancy between competency and performance in STEM, in general. Imam et al., 2013 points out that the relationship between specific components of reading comprehension and math performance can vary and is therefore worth investigating more carefully. Understanding which elements of reading comprehension are most critical for mathematical success is a challenge, and may vary from student to student. While Valenzuela et al., 2024 reinforces the known importance of reading comprehension skills in successful mathematical problem-solving, their study found that a majority of students were at the beginner level in both areas, suggesting a direct link between reading comprehension and problem-solving skills. They recommended intervention programs focused on improving reading comprehension to enhance students' mathematical problem-solving performance.

Thus, the results support the hypothesis that there is a significant and positive relationship between reading comprehension and mathematics performance. These findings underscore the importance of literacy, not only in language subjects but across academic disciplines, including Mathematics. Furthermore, the significant relationship implies that interventions aimed at improving students' comprehension skills could also potentially enhance their mathematical achievement. Future programs that integrate literacy strategies within Mathematics instruction may help students perform better by strengthening both their understanding of mathematical problems and their ability to navigate complex problem statements.

The insight from the study highlights the importance of teaching academic subjects in a connected and integrated manner, rather than in

isolation. Literacy skills especially reading comprehension serve as a crucial foundation for learning across all disciplines, including mathematics. This finding underscores the value of adopting an interdisciplinary approach, where instruction in language and mathematics is interwoven to reinforce understanding in both areas. Furthermore, identifying students who struggle early on and implementing consistent formative assessments are essential steps in addressing learning gaps and promoting long-term academic success.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The findings of the study reveal that students exhibit a moderate to high level of comprehension skills, with a mean score of 17.67 out of a possible 24. This suggests that the students, in general, are capable of understanding texts, drawing inferences, and grasping the main ideas presented in reading materials. However, the presence of a relatively high standard deviation (4.21) indicates that while many students perform at an acceptable level, others are still struggling, pointing to a need for differentiated instruction and targeted reading interventions.

In contrast, students' academic performance in problem-solving tasks in mathematics was found to be very low, with a mean score of 10.55 out of 24. This score, based on the raw score interpretation scale, places most of the students in the lowest proficiency category. The wide range of scores (from 3.00 to 19.00) and a notable standard deviation (3.92) imply that while a few students demonstrate reasonable competence in solving math problems, the majority are facing significant difficulties. These findings raise concerns about students' ability to process and apply logical reasoning and may point to gaps in their understanding of mathematical concepts or lack of effective problem-solving strategies.

The Pearson correlation result revealed a moderate positive and statistically significant relationship between comprehension skills and academic performance in mathematics ($r = 0.424$, $p = 0.001$). This indicates that students who have higher levels of comprehension skills tend to also perform better in mathematical problem-solving. The significance of this correlation suggests that reading comprehension is not only essential for success in language-based subjects but also plays

a critical role in mathematics, especially in solving word problems, interpreting instructions, and making sense of problem scenarios.

Taken together, the results emphasize the interdependence between reading comprehension and mathematical problem-solving skills. Strengthening students' ability to understand, analyze, and interpret written information can have a direct and positive impact on their success in mathematics.

5.2 Recommendations

Based from the conclusions drawn, the following recommendations are hereby presented by:

To meet the different levels of comprehension among the students, it is advisable for the schools to make use of differentiated reading instruction which will match towards the individual needs of students. Teachers are encouraged to give struggling readers the necessary support by applying methods such as guided reading, vocabulary and strategy instructions. On the other hand, the advanced readers can be exposed to higher-order comprehension tasks for their cognitive development.

In view of the unacceptable level of students' achievements in mathematics, the first thing is to rearrange the content of mathematics so that students will gain more engagement, confidence, and skills. The teachers should use drawings, real-life examples of problems, and techniques piece by piece to help the students in understanding and relating mathematical ideas.

The results of the study showing a positive relationship between comprehension skills and mathematics performance suggest that reading strategies can have a place in math instruction. Communicating with each other, language and math teachers must work to enable students to decode and understand the problem statements, and as a result, it will raise their mathematics performance. Educators may identify and discover a more effective strategies to improve students' performance and make educational programs that integrate reading strategies within math instruction to prove effective in enhancing both literacy and numeracy outcomes.

Future studies could also try to include more respondents to make the results more accurate.

Also, a bigger group of respondents could provide more accurate findings and improve reliability of the results. It may also include students from different grade levels, or schools to help check if the connection between reading comprehension and math performance is the same in different groups.

While this study was purely quantitative method, future researchers can also incorporate the qualitative method use such interviews or group talks to better understand the students' experiences, thoughts, challenges and problems with reading comprehension and math performance.

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