



METACOGNITIVE KNOWLEDGE AND READING STRATEGIES AS PREDICTORS OF COMPREHENSION SKILLS OF SENIOR HIGH SCHOOL STUDENTS

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ABSTRACT

This study aimed to investigate the relationship between Metacognitive Knowledge and Reading Strategies as predictors of Comprehension Skills among Senior High School students. This study utilized a quantitative research method involving Senior High School students who answered the adapted and modified survey questionnaires. The study used three statistical tools- mean, Pearson correlation, and linear regression analysis- to accurately interpret the data. Based on the findings, there is a high level of metacognitive knowledge and reading strategies among Senior High School students. Furthermore, their overall level of comprehension skills is Very Satisfactory. The rejection of the null hypothesis validates the significant relationship between metacognitive knowledge and reading strategies in influencing comprehension skills. The results of the study showed that among the indicators of metacognitive knowledge, task knowledge best-predicted comprehension skills. On the other hand, among the indicators of reading strategies, problem-solving reading strategies and support reading strategies best-predicted comprehension skills. The schools may provide opportunities for students to develop their cognitive abilities and best approaches to be used for reading tasks since both play a crucial role in shaping students' reading comprehension.

KEYWORDS: MAED-Teaching English, metacognitive knowledge, reading strategies, comprehension skills, Philippines
SDG Indicator: #4 Quality Education

INTRODUCTION

Senior High School students are expected to be proficient in reading and comprehending English texts at an advanced level. However, many struggle with comprehension due to three main factors: personal challenges, teaching methods, and external influences. Student-related issues include limited English proficiency, lack of interest in the subject, and low motivation. Teacher-related problems arise when educators either do not use any specific teaching method or rely on ineffective approaches. Lastly, external challenges, such as inadequate learning materials and an unsupportive environment, further hinder students' reading comprehension (Ganie et al., 2019).

When assessing students' comprehension of a given short story, some may appear to read fluently but struggle to answer questions about the text. Similarly, difficulties in decoding words can hinder smooth and accurate reading, ultimately affecting comprehension. If students focus too much on pronouncing words correctly, they may lack the cognitive capacity to understand the meaning behind them. Addressing these challenges and identifying areas for improvement in Filipino learners' reading abilities is crucial, as reading difficulties prevent schools from achieving their goal of producing well-informed and competent individuals (Idulog, 2023).

Simply knowing that reading strategies exist is not enough to enhance comprehension. To succeed in understanding texts, readers must actively apply these strategies while reading. Therefore, English teachers must guide their students in learning the strategies and how and when to use them effectively (Wangari, 2018).

The first independent variable in this study, Metacognitive Knowledge, is based on Flavell's 1979 model, which defines Metacognition as having three interconnected components: knowledge of person, task, and strategy. Knowledge of person involves an individual's awareness of their own cognitive strengths and weaknesses. Knowledge of task refers to understanding the demands of a given activity, while knowledge of strategy focuses on selecting the most effective approach to complete a task. Establishing a metacognitive learning environment in the classroom is essential, as fostering metacognitive awareness enables learners to construct knowledge more effectively (Verma et al., 2023).

The second independent variable, Reading Strategies, is grounded in Bartlett's Schema Theory (1932), which explains how knowledge is acquired, processed, and structured. This theoretical framework explores the nature of internal self-regulation and its significance in knowledge creation. It emphasizes the role of evolving schemas and internal regulatory processes as key



components of a cognitive system capable of generating new knowledge and facilitating learning (Iran-Nejad & Winsler, 2000). However, reading difficulties often arise due to poor regulation of reading strategies and limited language proficiency, which hinder effective comprehension (Adunyarittigun, 2021).

Reading comprehension is a complex and multi-dimensional skill, making improvement challenging. Enhancing students' reading abilities will require collaboration among researchers, educators, and policymakers, prioritizing long-term strategies over short-term gains focused on basic comprehension measures (Elleman & Oslund, 2019). In the Philippines, the Department of Education issued DepEd Memorandum No. 173, s. 2019 on November 22, 2019, aiming to enhance initiatives that support students in improving their reading skills. This effort includes the Hamon: Bawat Bata Bumabasa (3Bs Initiative) and Brigada Pagbasa, both designed to promote literacy among learners. However, despite these initiatives, further action is necessary, as the 2018 Programme for International Student Assessment (PISA) results showed that out of 79 participating countries and economies, the Philippines ranked the lowest in reading comprehension. Additionally, the country had the highest proportion of low-performing readers among socio-economically disadvantaged students, highlighting the urgent need for stronger interventions in literacy education.

In this study, the anchor theory is based on the Metacognition theory by Flavell (1979). To engage in this awareness, an individual must deliberately and personally focus their consciousness on the subject of their thinking (Ozturk, 2024). In its simplest term, Metacognition means thinking about one's own thinking. The root word "meta" means beyond so Metacognition is defined as beyond thinking. According to Flavell, Metacognition consists of two key components: metacognitive knowledge and metacognitive experiences or regulation. Metacognitive knowledge involves an individual's understanding of cognitive processes and how to control them. Meanwhile, metacognitive experiences include strategies for monitoring and regulating thinking. Flavell further categorized metacognitive knowledge into three types: person knowledge (awareness of one's cognitive abilities), task knowledge (understanding the demands of a task), and strategy knowledge (knowing the best approach to accomplish a task). Establishing metacognitive awareness in learning environments helps students refine their thinking and improve comprehension (Livingston, 2023).

In the context of this study, the theory highlights the role of metacognitive knowledge and reading strategies in shaping Senior High School students' comprehension skills. Proficient readers tend to have greater awareness of their reading abilities (person knowledge), the purpose and requirements of the text or task they are engaging with (task knowledge), and the available reading strategies, along with their appropriate application to achieve a cognitive goal (strategy knowledge). According to metacognitive theory, metacognitive knowledge fosters metacognitive experience. A reader with strong metacognitive

awareness can effectively apply reading strategies to overcome comprehension challenges, ultimately enhancing their understanding of texts. This suggests that metacognitive knowledge and reading strategies improve reading comprehension.

The study is supported by three theories, namely Metacognition Theory by Flavell (1979), Bartlett Schema Theory (1932), and Goodman (1973) Interactive Model of Reading. In reading, almost all of the students do not understand the text, and some have difficulty comprehending the questions. The students get confused when they read the content of the text, thus, they find the keywords to search for the text's main idea. It is the students' way to help them answer the questions correctly although not all the students do this task easily (Nurmalasari & Haryudin, 2021).

The second independent variable, Reading Strategies, was based on Bartlett Schema Theory (1932). The theory explains a significant connection between using reading strategies and comprehension. Hence, this theory highlights the significance of reading strategies in increasing the comprehension skills of students. Teaching students cognitive reading strategies across all sub-scales is essential for enhancing their reading comprehension skills. They can develop stronger reading proficiency by equipping them with effective techniques such as identifying main ideas, making inferences, summarizing, and self-monitoring their understanding. Implementing these strategies in the classroom can empower students to process texts more effectively and improve their overall academic performance (Wangari, 2018). However, strategies used by some students are still inappropriate or less than optimal. Reading methods like questioning, global, and support, require more in-depth comprehension and critical thinking abilities, which may still require more rigorous practice and education. Depending on their reading objectives, students must select and apply the appropriate reading strategies based on their specific needs, learning needs and reading ability. Thus, they can improve their ability to read and understand information better.

Comprehension skills were the study's dependent variable, anchored on Goodman (1973) Interactive Model of Reading. Goodman (1973) views reading as a psycholinguistic guessing game suggesting that readers engage in a cycle of recognizing cues, predicting meaning, confirming their assumptions, and making corrections when necessary. Skilled readers do not need to process every detail; the more accurate their guesses, the less information they must rely on. By 1979, Goodman explained that during reading, individuals extract just the essential parts of the text needed to build a basic linguistic structure for interpretation, instead of aiming for an exact, detailed understanding (Jialing, 2023).

In connection, Flavell (1979) theory on Metacognition allowed the researcher to understand the importance of metacognitive knowledge in comprehension skills. Aside from this, the Schema Theory by Bartlett (1932) helped the researcher understand the key role of reading strategies in comprehension. The Interactive Model



by Goodman (1973) also contributed to a greater understanding of how readers process the information they get in reading. The theory clarifies the significance of creating predictions and reading words and sentences. This prediction process includes top-down processing, where readers use their prior knowledge of similar

situations and cues to make sense of new information, and bottom-up processing, where readers try to infer the meaning of the text from their understanding of individual letters and how they are arranged into words.

INDEPENDENT VARIABLES

DEPENDENT VARIABLE

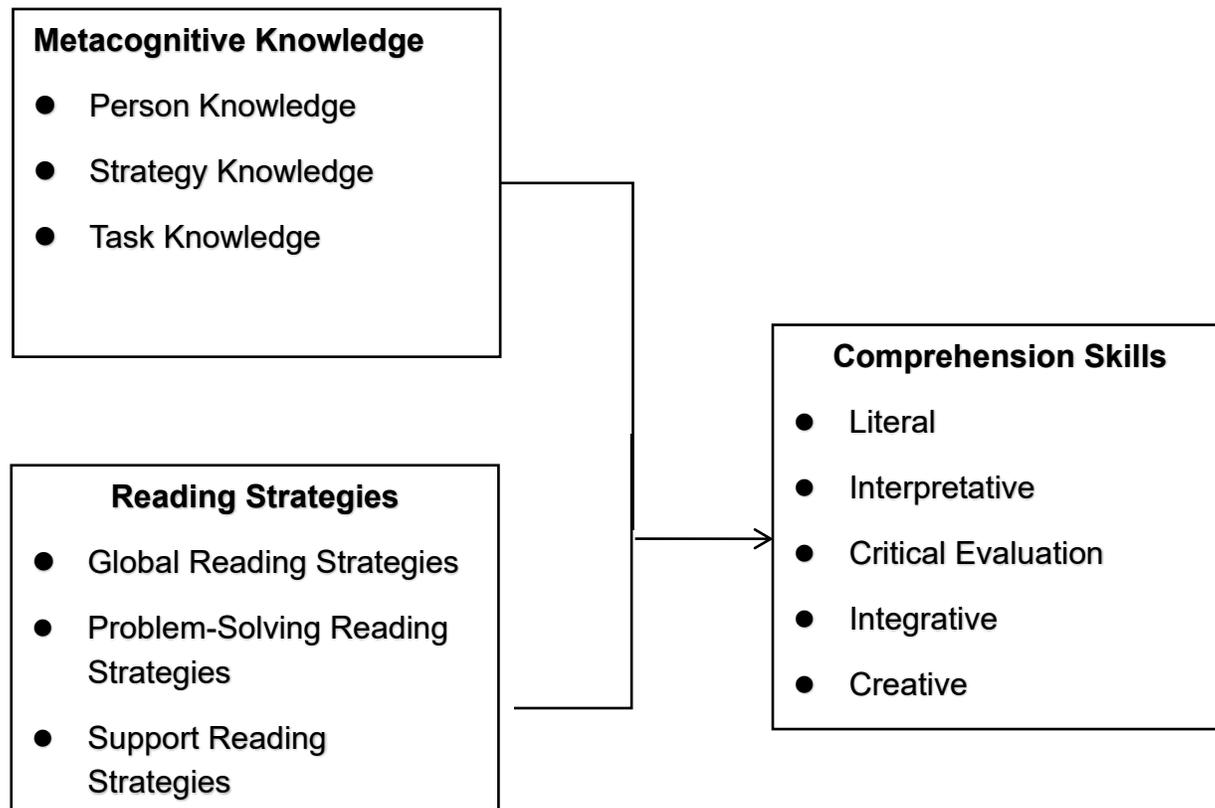


Figure 1. Conceptual Framework of the Study

Figure 1 in the conceptual framework displays the paradigm illustrating the relationship between metacognitive knowledge and reading strategies as independent variables, with comprehension skills as the study's dependent variable.

In recent years, there has been a marked rise in the extant literature concerning the connection between metacognitive knowledge, reading strategies and comprehension skills. However, few studies have investigated the impact of these two variables on comprehension skills together. Therefore, this portion of the study reviews the relevant literature on the relationship between the independent and dependent variables.

Due to the limited research on how metacognitive knowledge and reading strategies predict comprehension skills, conducting a study within the Philippine context—particularly in Region XI and the Schools Division of the City of Mati—is crucial. Such a study could provide valuable insights into the factors affecting students' reading comprehension and help develop targeted

interventions to improve literacy outcomes in the region. Most studies on metacognitive knowledge and reading strategies have been conducted overseas, creating a research gap. To address this, the present study aims to investigate the broader impact of metacognitive knowledge and reading strategies on comprehension skills. Through this research, we can explore how metacognitive knowledge and reading strategies influence the comprehension skills of Senior High School students. This study has the potential to provide valuable insights that could improve literacy education and support students in becoming more proficient readers.

At the worldwide level, this study contributes to the body of knowledge by addressing a critical aspect of learning through comprehension skills. It examines the influence of metacognitive knowledge and reading strategies, which are essential components in attaining comprehension. By exploring the relationship between these factors and comprehension skills, the study fills a research gap and adds to the existing understanding on comprehension skills.



Furthermore, the study's conclusions have practical applications in education. Understanding the role of metacognitive knowledge and reading strategies toward comprehension skills can profoundly impact the teaching-learning process and improve literacy.

This study holds significance on a community and humanity level as it focuses on determining what variables best predict comprehension skills. By investigating the predictors of comprehension skills, specifically the role of metacognitive knowledge and reading strategies, this study provides insights that can help students improve their comprehension skills. This, in turn, can lead to increased comprehension skills.

Additionally, this study is helpful to both students and teachers, particularly to the Department of Education (DepEd). This study identifies the contribution of metacognitive knowledge and reading strategies to comprehension skills, giving the relevant information needed to determine the predictors of comprehension skills. Through knowledge of comprehension skills, this study helps students in advancing and improving their cognitive processes. It provides additional information about comprehension skills and their connections to metacognitive knowledge and reading strategies, especially for the professional school's department in the field of education. It is also helpful to the school as it aids the school administrator's understanding of comprehension skills. Finally, future researchers may use this study as a guide for their future research which helps them recognize and gain more knowledge about the metacognitive knowledge and reading strategies that are predictors of comprehension skills.

This study assessed how metacognitive knowledge and reading strategies influenced comprehension skills. By examining students' awareness of their cognitive processes and ability to apply effective reading strategies, the research sought to determine how these factors contributed to an improved understanding of texts. Specifically, this study was carried out to answer the following questions, The first is to describe the level of metacognitive knowledge to comprehension skills in terms of (1) Person Knowledge, (2) Strategy Knowledge, and (3) Task Knowledge. Second, this study aimed to describe the level of reading strategies to comprehension skills in terms of (1) Global Reading Strategies, (2) Problem-Solving Reading Strategies, and (3) Support Reading Strategies. Third, the study also aimed to describe the level of Comprehension Skills in terms of (1) Literal, (2) Interpretative, (3) Critical, (4) Evaluative, and (5) Creative. Fourth, the study also intended to ascertain if metacognitive knowledge and comprehension skills were significantly correlated, as well as between reading strategies and comprehension skills. Lastly, the study determines which domain of metacognitive knowledge and reading strategies significantly predicted comprehension skills.

In addition, the following hypotheses were tested at a significant level of 0.05 stating that there was no significant relationship between metacognitive knowledge and comprehension skills; there

was no significant relationship between reading strategies and comprehension skills and metacognitive knowledge and reading strategies do not predict comprehension skills.

METHOD

This section presents the methods used to gather all the necessary data. Also indicated in this section were the research respondents, materials and instruments, design and methodology, and the statistical analysis of the data gathered and used by the researcher throughout the conduct of this study.

Research Respondents

The respondents who participated in this research were the Senior High School students enrolled in the Mati Northwest District of the Schools Division of the City of Mati in the Second Semester of the School Year 2023 to 2024. Mati Northwest District includes five schools offering Senior High School, namely Taguibo National High School, with 45 male students and 25 female students for a total of 70 students; Buso National High School, with 74 male students and 75 female students for a total of 149 students; Don Salvador Lopez National High School, with 66 male students and 68 female students for a total of 134 students; Don Enrique Lopez National High School, with 64 male students and 58 female students for a total of 122 students; and Matiao National High School, with 193 male students and 210 female students for a total of 403 students. Furthermore, this study considered the precautions or guarantees designed to safeguard the privacy and confidentiality of the respondents. They were informed that they could withdraw anytime if they feel threatened physically, psychologically, socially, economically, and emotionally throughout the conduct of the study.

In addition, respondents were randomly selected. Participants for this study were chosen through stratified random sampling. In this type, the population is first divided into subgroups called strata based on similarities, and then from each group or strata, the members are selected randomly (Bhardwaj, 2019).

The study was conducted at Mati City, the capital of Davao Oriental in Region XI, Philippines. Mati, the provincial capital, is located at the coastal area of the Province of Davao Oriental. Mati City's land area is 588.63 square kilometers or 227.27 square miles which equals 10.36% of Davao Oriental's total area. 147,547 people were living there as of the 2020 Census. This accounted for 2.81% of the Davao Region's total population, or 25.60% of the province of Davao Oriental. Based on these numbers, the population density is 251 people per square kilometer, or 649 people per square mile. The Department of Education- Mati City Division is based within the city limits, making it an ideal setting for this study which aimed to assess whether Senior High School students' comprehension skills are influenced by metacognitive knowledge and reading strategies.

MATERIALS AND INSTRUMENT

Primary data were gathered for the study. The researcher used downloaded, adapted, and modified questionnaires as inquiry



devices, which gained widespread acceptance as practical ways of eliciting data to answer specific problems in this research. A pilot test of the research instrument was conducted for the reliability test. Moreover, to confirm the validity of the questionnaires, the tools used to measure the various variables were also validated internally and externally. Expert validation was conducted to enhance the reliability of the instrument. The survey was distributed and administered to the respondents.

For Metacognitive Knowledge as the first independent variable, the researcher adapted the survey instrument of Scrawl and Sperling (1994) - Metacognitive Knowledge Questionnaire for students. The questionnaire consists of 9 items in three areas; person knowledge (9), strategy knowledge (9), and task knowledge (9). Data were interpreted using a 5-point Likert Scale. In addition, for Reading Strategies as the second independent variable, the researcher modified the survey instrument of Mokhtari & Sheorey (2002) - Cognitive Reading Strategies Questionnaires for students based on the Survey of Reading Strategies. The questionnaire consists of 9 items in three areas; Global Reading Strategies (9), Problem-Solving Reading Strategies (9), and Support Reading Strategies (9). Data were interpreted using a 5-point Likert Scale.

On the other hand, for the dependent variable, Comprehension Skills, the researcher used fifteen questions for every level from the book entitled, *Wholistic Reading: A Module for College Students* by Castigador (2012). The questionnaire consisted of 75 items in five areas: literal (15), interpretative (15), critical (15), integrative (15), and creative (15). Data were interpreted using mean and standard deviation.

The parameters of limits for metacognitive knowledge were categorized into five levels. A rating between 4.20 and 5.00 was *Very High* in the description, as it was interpreted that the metacognitive knowledge among Senior High School students was always felt. A score ranging from 3.40 to 4.19 was classified as *High*, meaning metacognitive knowledge among Senior High School students was oftentimes felt. The *Moderate* category, with scores from 2.60 to 3.39, reflected that metacognitive knowledge among Senior High School students was sometimes felt. Simultaneously, a score between 1.80 and 2.59 under the *Low* category reflected that metacognitive knowledge among Senior High School students was seldom felt. A rating between 1.00 and 1.79 was described as *Very Low*, showing that the metacognitive knowledge among Senior High School students was never felt.

Meanwhile, the parameters of limits for Reading Strategies were grouped into five levels. A range between 4.20 and 5.00 was indicated as *Very High*, meaning reading strategies among Senior High School students were always observed. A score between from 3.40 to 4.19 was labeled as *High*, meaning reading strategies among Senior High School students were oftentimes observed. Ranges 2.60 to 3.39 fell under the *Moderate* category suggesting that reading strategies among Senior High School students were sometimes observed. The *Low* category ranging from 1.80 to

2.59, reflected that reading strategies among Senior High School students were seldom observed. Finally, a score ranging from 1.00 to 1.79 was considered *Very Low*, which implied that reading strategies among Senior High School students were never observed.

On the other hand, the parameters of limits for Comprehension Skills were sorted into five descriptive levels. A score ranging from 13.00 to 15.00 was *Outstanding*, this meant that the level of comprehension skills of Senior High School students was outstanding. A range between 10.00 and 12.99 was indicated as *Very Satisfactory*, meaning the level of comprehension skills of Senior High School students was very satisfactory. The following ranges from 7.00 to 9.99, depicted as *Satisfactory*, and it was explained that the level of comprehension skills of Senior High School students was satisfactory. The *Needs Improvement* category, ranging from 4.00 to 6.99, reflected the level of comprehension skills of Senior High School students still needed improvement. Lastly, a score from 0.00 to 3.99 was classified as *Poor*, which meant that the level of comprehension skills of Senior High School students was poor.

In addition, the parameters of limits for Overall Comprehension Skills were categorized into five descriptive levels. A range from 61 to 75 was *Outstanding*, this meant that the overall level of comprehension skills of Senior High School students was outstanding. Meanwhile, a score between 46 and 60.9 was indicated as *Very Satisfactory*, meaning the overall level of comprehension skills of Senior High School students was very satisfactory. The following ranges from 31 to 45.9, depicted as *Satisfactory*, and it was classified that the overall level of comprehension skills of Senior High School students was satisfactory. The *Needs Improvement* category, ranging from 16 to 30.9, showed that the level of comprehension skills of Senior High School students still needed improvement. Finally, a rating from 0 to 15.9 was described as *Poor*, which meant that the overall level of comprehension skills of Senior High School students was poor.

DESIGN AND PROCEDURE

This study was a quantitative, non-experimental study that used regression analysis to examine causal-effect relationships. Quantitative research is a method used to evaluate objective theories by exploring the connections between variables. These variables were measured—often using specific instruments—and the resulting numerical data were analyzed through statistical techniques (Creswell & Creswell, 2018). Overall, this study used descriptive analysis to analyze one or more variables.

The researcher conducted the study in several stages. First, an outline defense was undertaken, and the internal and external experts validated the research instruments. After the approval from the University of Mindanao Ethics Review Committee (UMERC), pilot testing was conducted to test the reliability of the questionnaires. The researcher emphasized the value of obtaining official authorization from the organization hosting the research



or the data collection site. To do this, a letter was obtained from the graduate school administration asking for approval to conduct the study.

Authorization and certification of the research were obtained from the Program Coordinator of the Graduate School and the Office of the Schools Division Superintendent of the Schools Division of Mati City, respectively. The thesis adviser and dean of graduate school then signed the letter. The information was sent to the Department of Education- Schools Division Office of Mati City, where the survey was conducted. The researcher needed permission from the Office of the Schools Division Superintendent of the Department of Education, Division of Mati City, to carry out the study. The approval letter was subsequently given to the five significant Senior High Schools in the Mati Northwest District that were responsible for approving it after it had been obtained. The Schools Division Superintendent, the relevant school authorities, and the respondents themselves all gave their consent for the survey to be carried out.

Respondents were advised of the authorization granted to the researcher. The researcher then delivered and distributed the questionnaires to respondents with permission from the Office of the Schools Division Superintendent, providing orientation and guidance to ensure complete correctness in responses. By employing a simple and easy-to-understand survey questionnaire, the researcher ensured the respondents were well-informed of the study's potential advantages to them, the school, and the society.

The researcher also made sure that the respondents had a chance to ask questions with psychological support and had read, understood, agreed with, and signed the Informed Consent Form. This form was provided to the respondents, free to terminate participation at any time and withdraw their consent without consequence. Moreover, the parents of the minor respondents could comprehend and affix their signature to the Informed Assent Form and give it back to the researcher.

In addition, the right to privacy and the confidentiality of personal information were both recognized as rights that students have. The researcher had a duty to protect participants from potential harm, such as psychological pain, embarrassment, and social harm, by maintaining privacy and secrecy. As a result, all data acquired for this study were kept private and secret, and respondents' information was handled with the utmost confidentiality. Only the researcher could access the respondents' collected, recorded, organized, updated, used, consolidated, and disposed of data to ensure data security and in adherence to Republic Act 10173, or also known as Data Privacy Act of 2012.

Data processing, collaboration, and verification were done. After distributing the survey questionnaires, all responses were collected and tallied accordingly. Results were tabulated, analyzed, and interpreted upon completion. The school's assigned statistician received the tallied data for analysis.

The study used three statistical tools- mean, Pearson correlation, and linear regression analysis- to accurately interpret the data. The researcher used mean to determine the level of metacognitive knowledge, reading strategies, and comprehension skills. In addition, the researcher applied the Pearson-r correlation to analyze the strength of the relationship between metacognitive knowledge and comprehension skills of Senior High School students in the Mati Northwest District, Division of Mati City. This statistical method was also utilized to examine the connection between reading strategies and comprehension skills, providing valuable insights into how these factors influence students' reading proficiency. Furthermore, the researcher used linear regression analysis to define the domain of metacognitive knowledge and reading strategies that will affect Senior High School students' comprehension skills in the Mati Northwest District.

The primary considerations are the Senior High School students as the respondents of this study. Thus, the researcher guaranteed and prioritized their well-being and assured them by adhering to moral principles in the conduct of this study. Moreover, the ethical norms, respect for humans, beneficence, and justice were strictly observed.

Respect for humans upholds each human research subject's autonomy and dignity. With this, the respondents' participation is required in an Informed Consent Form, with the addition of an Assent Form for minor respondents. The researcher had a duty to protect participants from potential harm, such as psychological pain, embarrassment, and social harm, by maintaining privacy and secrecy. As a result, all data acquired for this study were kept private and secret, and respondents' information was handled with the utmost confidentiality. The presented data did not include any specific identifying characteristics of the respondents. Results were presented as the group's mean response. Hence, no individual response was highlighted.

In this study, it was required that the researcher must avoid inflicting potential harm to particular research subjects and enhance potential benefits. As such, the researcher made the welfare of the respondents a top priority. Thus, the respondents were given ample time in answering the research instrument. The study did not involve any circumstances that provided a significant risk to the participants regarding their physical, physiological, or socioeconomic well-being. The research methodologies and procedures and their participation or non-participation in the study did not affect their enrollment status. In the event that the questions put the students on a feeling of disadvantage, they were allowed to discontinue answering the item/s. The respondents received a simple yet significant token of appreciation for taking part in the study.

Furthermore, the research findings provided valuable insights for the Department of Education, helping to expand their understanding of the role of metacognitive knowledge and reading strategies in enhancing students' comprehension skills. These findings may serve as a foundation for developing and



implementing new approaches based on the study's recommendations, allowing the Department of Education to create more effective strategies that support literacy development and improve learners' reading proficiency.

There was neither evidence to refute the originality of this body of study nor any hint that the author had copied and misrepresented the work of others. The study looked at plagiarism found by tools like Turnitin and Grammarly. The researcher thoughtfully observed using a theoretical model, and proper citation was also observed to avoid plagiarism and misinterpretation. The thesis asserted that purposeful misreading, intentional inclusion of false assumptions, and intentional use of inaccurate data had not altered the evidence presented here or its implications. The research did not misread works or manipulate data to fit personal biases. No change or exaggeration had occurred. This study acknowledged, treated respondents properly and allowed them to make their own decisions.

RESULT AND DISCUSSION

This section details the results, analysis, and interpretations drawn from the study. The data analysis and interpretation were carefully followed to attain the research objectives. Tables and their interpretations were organized chronologically under the corresponding subheadings.

Level of Metacognitive Knowledge

Table 1 shows the level of Metacognitive Knowledge with the indicators of Person Knowledge, Strategy Knowledge and Task Knowledge. Also, it displays the mean scores for Metacognitive Knowledge, which has an overall mean of 4.02, which is deemed "high," and a standard deviation of 0.456. This indicates that Metacognitive Knowledge among Senior High School students was oftentimes felt.

Table 1.

Level of Metacognitive Knowledge			
Indicators	Mean	SD	Descriptive Level
Person Knowledge	4.03	0.795	High
Strategy Knowledge	4.13	0.794	High
Task Knowledge	3.91	0.824	High
Overall	4.02	0.456	High

The current level of Metacognitive Knowledge is high. The findings align with Flavell's anchor theory, which suggests that skilled readers possess a deeper awareness of their reading abilities (person knowledge), the purpose and demands of the text or task (task knowledge), and the available reading strategies and their appropriate application to achieve cognitive goals (strategy knowledge). His work suggests that individuals who develop strong metacognitive awareness can regulate their learning strategies more effectively, particularly in reading comprehension. Establishing a metacognitive learning environment in the classroom is essential, as fostering metacognitive awareness enables learners to construct knowledge more effectively (Verma et al., 2023).

This is exemplifying the idea of Samarajeewa (2023) which highlighted the importance of Metacognitive Knowledge in the comprehension skills of students. It emphasizes that learners who can reflect on their learning process and evaluate their understanding of the text are more likely to comprehend the material. Thus, learners who can plan their reading and monitor their comprehension are more likely to understand the text.

The respondents' high ratings of their person, strategy, and task knowledge are responsible for the results; the overall mean score was calculated using the following order of highest to lowest indicators: strategy knowledge was rated at 4.13 (high), person knowledge at 4.03 (high), and task knowledge at 3.91 (high).

For person knowledge, the statements: *As a Senior High School student, I know that I learn best when I know something about the*

topic obtained the highest mean score of 4.08 with standard deviation of 0.788. On the other hand, the statement: *knowing that I am good at identifying and grouping related information* got the lowest mean score of 3.99 with a standard deviation of 0.814.

For strategy knowledge, the statement: *As a Senior High School student I try to use reading method in analyzing and internalizing what I read*, obtained the highest mean score of 4.19 with a standard deviation of 0.779; while the statement *trying to use reading methods that have worked in the past* obtained the lowest mean score of 4.06 with a standard deviation of 0.848.

For task knowledge, the statement, *As a Senior High School student, I learn best when I know something about the topic*, obtained the highest mean score of 4.09 with a standard deviation of 0.840; while the statement, *taking note of learned concepts and make effective use of information derived from the text* got the lowest mean score of 3.97 with a standard deviation of 0.806.

Additionally, the study's findings align with research demonstrating that the three sub-scales of metacognitive knowledge collectively contribute to successful reading comprehension. When a reader is aware of their own reading abilities (person knowledge), understand the type, purpose, and demands of a given reading task (task knowledge), and recognize the appropriate reading strategies to apply (strategy knowledge), they are better equipped to navigate and comprehend texts effectively. This highlights the importance of fostering metacognitive awareness to enhance students' reading proficiency (Wangari, 2018).



Level of Reading Strategies

Table 2 below presents the level of Reading Strategies with three indicators, Global Reading Strategies, Problem-Solving Reading Strategies and Support Reading Strategies. The mean scores ranged from 4.10 or high for *problem-solving reading strategies*,

4.05 or high for *global reading strategies*, to 4.03 or high for *support reading strategies*. The overall mean score for the reading strategy indicators was 4.06, which was considered high, with a standard deviation of 0.495.

Table 2.
Level of Reading Strategies

Indicators	Mean	SD	Descriptive Level
Global Reading Strategies	4.05	1.266	High
Problem-Solving Reading Strategies	4.10	0.863	High
Support Reading Strategies	4.03	0.568	High
Overall	4.06	0.495	High

According to Table 2, the overall mean score for the reading strategy indicators was 4.06. This indicates that reading strategies among Senior High School students were oftentimes observed. The high rating given by respondents to the indicators of *global reading strategies*, *problem-solving reading strategies*, and *support reading strategies* likely contributed to the total mean scores of 4.05, 4.10 and 4.03, respectively.

students effectively apply these strategies, they can navigate texts more efficiently, make meaningful connections, and enhance their understanding. This reinforces the importance of fostering strategic reading habits to improve overall literacy skills (Wangari, 2018).

For Global Reading Strategies, the statement, *As a Senior High School student, I visualize the text and I put it in my own words to help me understand*, obtained the highest mean score of 4.10 with a standard deviation of 0.813. On the other hand, the statement *perusing through the reading material to have an idea of its length, structure and the subject matter* got the lowest mean score of 3.91 with a standard deviation of 0.896. For Problem-Solving Reading Strategies, the statement, *As a Senior High School student, I answer comprehension questions based on the text I read*, obtained the highest mean score of 4.10 with a standard deviation of 0.850; while the statement, *drawing on prior knowledge to activate interaction with the text* got the lowest mean score of 3.90 with a standard deviation of 1.303.

Furthermore, the study’s findings align with previous research indicating a statistically significant and positive correlation between students' use of reading strategies and their reading comprehension. The results suggest that students who effectively apply global reading strategies, problem-solving strategies, and support reading strategies tend to achieve higher scores in reading comprehension tests. The hypothesis testing confirmed that reading strategies are crucial for students to enhance their comprehension skills, reinforcing the idea that strategic reading plays a vital role in academic success (Manurung et al., 2023).

For Support Reading Strategies, the statement, *As a Senior High School student, I focus on the meaning of the text by finding answers to my formulated questions*, obtained the highest mean score of 4.04 with a standard deviation of 0.728; while the statement, *revising predictions as I gain more information from the text* obtained the lowest mean score of 3.94 with a standard deviation of 0.806 .

The overall results aligned with Bartlett's Schema Theory (1932), which explains how knowledge is acquired, processed, and structured. This theoretical framework explores the nature of internal self-regulation and its significance in knowledge creation. It emphasizes the role of evolving schemas and internal regulatory processes as key components of a cognitive system capable of generating new knowledge and facilitating learning (Iran-Nejad & Winsler, 2000).

A strong use of reading strategies aligns with the idea that employing moderate to high levels of cognitive reading strategies is enough to achieve success in reading comprehension. When

Level of Comprehension Skills

The Table 3 below presents the result of the level of Comprehension Skills of the Senior High School students. These Comprehension Skills had five indicators namely, Literal, Interpretive, Critical Evaluation, Integrative and Creative. The overall mean score for all indicators of comprehension skills is 48.47, with a standard deviation of 11.258.

Table 3.
Level of Comprehension Skills

Indicators	Mean	SD	Descriptive Level
Literal	9.76	2.947	Satisfactory
Interpretive	9.26	2.443	Satisfactory
Critical Evaluation	8.66	2.632	Satisfactory
Integrative	10.57	3.212	Very Satisfactory
Creative	10.23	2.714	Very Satisfactory
Overall	48.47	11.258	Very Satisfactory



Table 3 demonstrates that the overall level of Comprehension Skills is Very Satisfactory. Respondents gave the integrative and creative levels of comprehension skills a Very Satisfactory rating, which ranged from 10.57 and 10.23 respectively. Moreover, a Satisfactory rating was given for the Literal, Interpretative and Critical Evaluation levels of comprehension, with mean scores ranging from 9.76, 9.26 and 8.66, respectively.

The findings indicate that the integrative level achieved the highest mean score of 10.57, aligning with previous research that identified integrative comprehension as the most proficient level among the five reading comprehension levels. This result suggests that Grade 12 GAS students demonstrate stronger abilities in integrating information, making connections, and constructing meaning from texts than other comprehension levels. These insights highlight the importance of further fostering integrative reading strategies to further enhance students' comprehension skills (Maranga et al., 2023).

In this study, comprehension skills, as the dependent variable, are grounded in the Interactive Model Theory. This theory emphasizes the role of schemata, which represents a reader's foundational knowledge shaped by societal experiences and prior understanding. According to this model, a reader's ability to comprehend new content is influenced by their existing schema, as it helps them interpret and connect new information with previously acquired knowledge. Comprehension is an interactive process where readers actively engage with a text using their background knowledge to construct meaning.

The study's findings align with Goodman's Interactive Model (1981), which provides deeper insights into how readers process

information while reading. This model emphasizes that reading is not just about recognizing words and sentences but also involves prediction as a key component of comprehension. The fact that the Integrative Level achieved the highest mean score highlights how Senior High School students actively engage in holistic reading comprehension. They reinforce a deeper and more meaningful comprehension experience by not only understanding the content but also making connections and integrating information from the text and with their prior knowledge.

Significance of the Relationship between Metacognitive Knowledge and Reading Strategies to Comprehension Skills

Presented in the Table 4 is the statistical significance on connection between Metacognitive Knowledge, the first independent variable, and Comprehension Skills, the dependent variable of the study. Also, it shows the significant relationship between Reading Strategies, the second independent variable, to Comprehension Skills. The results presented in Table 4.1 reveal that metacognitive knowledge is significantly associated with comprehension skills. The r-value for the relationship between metacognitive knowledge and comprehension skills has a p-value of 0.001 and a coefficient of determination of 0.367, indicating a positive correlation.

On the other hand, the r-value for the relationship between reading strategies and comprehension skills has a p-value of 0.001 and a coefficient of determination of 0.295, also indicating a positive correlation.

Table 4.1

Significance of the Relationship between Metacognitive Knowledge and Comprehension Skills

Independent Variable	Dependent Variable	r-value	r-square	p-value	Decision
Metacognitive Knowledge	Comprehension Skills	0.367*	0.135	0.001	H ₀ is rejected

*Significant at 0.05 level of significance

These results point to the significance of both metacognitive knowledge and reading strategies and inferential skills, especially in learning assessment. As a result, readers ought to comprehend more clearly while reading and possess improved regulatory skills to direct their future endeavors (Soto et al., 2019). Moreover, inferential reasoning and metacognitive abilities are essential for enhancing students' reading comprehension. Effective reading

strategies, along with self-assessment of learning, help learners reach their highest potential. Readers must develop regulatory skills to navigate and refine their reading abilities, enabling them to continue excelling academically because those who can actively monitor and manage their own learning tend to be more self-reliant and achieve greater success over time (Tantowie et al., 2022).

Table 4.2

Significance of the Relationship between Reading Strategies and Comprehension Skills

Independent Variable	Dependent Variable	r-value	r-square	p-value	Decision
Reading Strategies	Comprehension Skills	0.295*	0.087	0.001	H ₀ is rejected

*Significant at 0.05 level of significance

The study's findings are consistent with the previous research which showed that reading strategies significantly affect students' reading comprehension skills (Banditvilai, 2020). Moreover, there is a strong positive relationship between participants' use of

reading strategies and their reading comprehension skills. Beyond incorporating reading strategies into classroom instruction, educators should focus on training students to become strategic readers by teaching them how and when to apply these techniques



effectively. Additionally, students need to practice different reading strategies in their activities, ensuring they develop a diverse set of skills to overcome comprehension challenges and foster independent learning (Oranpattanachai, 2023).

As the tables demonstrate, the hypotheses suggesting that metacognitive knowledge and reading strategies have no significant relationship to comprehension skills are rejected. Metacognitive knowledge, reading strategies and comprehension skills were found to be positively correlated as evidenced by the results of this study. These findings provide invaluable insight for teachers, parents, school administrators and DepEd officials when

attempting to improve the cognitive processes and increase Senior High School students' comprehension skills.

Regression Analysis on the Influence of the Domains of Metacognitive Knowledge on Comprehension Skills

This Table 5.1 presents the findings of a regression analysis looking at the influence of the indicators of Metacognitive Knowledge to Comprehension Skills. The Task Knowledge's standard coefficient (Beta) is 0.353, 7.933 is the unstandardized coefficient B, and 2.095 is the standard error (SE). The null hypothesis (Ho) is rejected with a p-value of 0.001 and a statistically significant t-value of 3.788. Task Knowledge has a favorable and substantial impact on the comprehension skills of Senior High School students.

Table 5.1
Regression Analysis on the Influence of the Domains of Metacognitive Knowledge on Comprehension Skills

Independent Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value	Decision
	B	Standard Error				
(constant)	14.053	5.892				
Person Knowledge	0.353	1.612	0.016*	0.219	0.827	H ₀ is not rejected
Strategy Knowledge	0.143	2.00	0.007*	0.072	0.943	H ₀ is not rejected
Task Knowledge	7.933	2.095	0.353*	3.788	0.000	H ₀ is rejected

Dependent Variable: Comprehension Skills

R-value=0.367

F-value=14.103

R2=0.135

p-value=0.000

Furthermore, the corresponding beta values for task knowledge, person knowledge, and strategy knowledge are 0.353*, 0.016*, and 0.007*, respectively, with a p-value of 0.000, 0.827, and 0.943, respectively. Indicators of metacognitive knowledge had comparable p-values of 0.000, which is less significant than the 0.05 threshold. This indicates that among the indicators of metacognitive knowledge, only the task knowledge can significantly predict comprehension skills.

The study's findings indicate that task knowledge is the key component of metacognitive knowledge that most effectively predicts comprehension skills. This result aligns with Flavell's Metacognition Theory (1979), which emphasizes that successful reading relies on metacognitive knowledge and experience. According to Flavell, metacognitive experiences are elements of metacognitive knowledge that evaluate one's progress in completing a task. A reader aware of the demands of a reading

task and knows how to regulate their cognitive processes is better equipped to achieve their comprehension goals. This reinforces that strengthening task knowledge can significantly enhance students' reading proficiency.

Regression Analysis on the Influence of the Domains of Reading Strategies On Comprehension Skills

Table 6 presents the results of a regression analysis examining the impact of the indicators of Reading Strategies to Comprehension Skills. With a standard error of 1.567, the Problem-Solving Reading Strategies have a standardized coefficient of beta of 0.185 and an unstandardized coefficient of B of 3.446. There is a p-value of 0.029, and the value of t is 2.199. On the other hand, the Support Reading Strategies have a beta of 0.244, a standard error of 1.809, and an unstandardized coefficient of B of 4.833. 2.671 is the t-value, while 0.008 is the p-value. Only the Problem-Solving Reading Strategies and Support Reading Strategies have p-values of less than 0.05.



Table 5.2
Regression Analysis on the Influence of the Domains of Reading Strategies to Comprehension Skills

Independent Variable	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value	Decision
	B	Standard Error				
(Constant)	25.274	5.354				
Global Reading Strategies	-2.561	1.884	-0.114	-1.359	0.175	H ₀ is not rejected
Problem-Solving Reading Strategies	3.446	1.567	0.185	2.199	0.029	H ₀ is rejected
Support Reading Strategies	4.833	1.809	0.244	2.671	0.008	H ₀ is rejected

Dependent Variable: Comprehension Skills

R-value=0.324
R²=0.105

F-value=10.575
p-value=0.000

Thus, the null hypothesis stating that there is no significant relationship between reading strategies and comprehension skills is rejected. This finding demonstrates that reading strategies significantly affect comprehension abilities, reinforcing the idea that effective use of reading strategies contributes to improved understanding and interpretation of texts. These findings highlight the crucial role of strategic reading in enhancing students' literacy and academic success.

Additionally, the findings support previous research indicating that both Problem-Solving Reading Strategies and Support Reading Strategies correlate positively and significantly with reading comprehension performance. This suggests that students who actively engage in strategies such as rereading, adjusting reading speed, taking notes, or using reference materials tend to achieve higher levels of comprehension. Strengthening these strategies can further enhance students' ability to effectively process and understand complex texts (Wangari, 2018).

The findings also align with previous research showing that problem-solving reading strategies are the most commonly used approach among English as Foreign Language (EFL) students. These problem-solving reading strategies have been identified as key predictors in enhancing student performance in the Comprehension Reading Test (CRT). This suggests that when students actively employ problem-solving strategies while reading academic texts—such as rereading, making inferences, and adjusting their approach—they tend to achieve better results in reading comprehension (Zila & Septiana, 2023).

CONCLUSION AND RECOMMENDATION

This section encapsulated the study's findings and conclusions. First, it shows the descriptive findings. Second, it contains the inferential findings on the correlation and regression between variables. Third, it contains a statement whether the findings of

the investigation support or disprove the theoretical underpinnings of the study. Lastly, it provides recommendations that are predicated on the study's conclusions or outcomes.

Based on the findings, there is a high level of metacognitive knowledge among Senior High School students, meaning that the respondents often felt their metacognitive awareness in terms of person, strategy and task knowledge. In addition, it was found that Senior High School students had a high level of reading strategies, indicating that respondents oftentimes observed the use of their reading strategies in terms of global, problem-solving and support reading strategies. Furthermore, the overall level of comprehension skills of Senior High School students is Very Satisfactory. On the other hand, among the levels of of comprehension skills, integrative level got the highest mean, meaning that Senior High School students create a holistic understanding of the text that they have read, connecting and integrating information from the text into their overall knowledge.

Moreover, the study established a significant relationship between metacognitive knowledge and reading strategies in influencing comprehension skills. The rejection of the null hypothesis—claiming no significant connection between these factors—validates the idea that both metacognitive awareness and strategic reading approaches play a crucial role in shaping students' reading comprehension. Furthermore, the study's findings showed that among the indicators of metacognitive knowledge, task knowledge best-predicted comprehension skills. On the other hand, among the indicators of reading strategies, problem-solving reading strategies and support reading strategies best-predicted comprehension skills.

The findings of this study confirmed Flavell's (1979) theory, which is the anchor theory of the study. Flavell emphasized that



skilled readers possess a deeper understanding of their reading abilities (person knowledge), recognize the purpose and demands of a given text or task (task knowledge), and are aware of the available reading strategies and how to apply them effectively to achieve cognitive goals (strategy knowledge). According to metacognitive theory, metacognitive knowledge fosters metacognitive experience, enabling readers to apply reading techniques to overcome comprehension challenges strategically. This process leads to stronger reading comprehension, reinforcing the importance of developing metacognitive awareness and strategic reading skills for academic success.

In addition, the study's results parallel the Schema Theory of Bartlett (1932). The theory explains a significant connection between using reading strategies and comprehension. Hence, this theory highlights the significance of reading strategies in increasing the comprehension skills of students.

Moreover, the study's results also aligned with Goodman (1973) Interactive Model of Reading. Goodman (1973) views reading as a psycholinguistic guessing game suggesting that readers engage in a cycle of recognizing cues, predicting meaning, confirming their assumptions, and making corrections when necessary. Skilled readers do not need to process every detail; the more accurate their guesses, the less information they must rely on. By 1979, Goodman explained that during reading, individuals extract just the essential parts of the text needed to build a basic linguistic structure for interpretation, instead of aiming for an exact, detailed understanding (Jialing, 2023).

Comprehension skills were the study's dependent variable, anchored on the Interactive Model Theory. This focuses on the the foundation data of the reader in connection to his/ her societal idea and the substance of the content to be perused, also commonly known as "schemata". This is the reader's understanding of the text based on previous schema or background knowledge.

The researcher has formulated recommendations for policy development and future research based on the findings of the study. These recommendations are derived from the study's results, particularly focusing on the indicators with the lowest ratings in the appended data.

Senior High School students need to develop their skills in identifying and grouping of related information. They can improve their awareness of their own cognitive strengths and weaknesses by developing their critical thinking skills, particularly in categorizing relevant, related, and accurate information.

Moreover, in strategy knowledge, students' ability to use reading methods that have worked in the past still needed improvement. Thus, they may start learning and using reading methods to help them with reading tasks and increase their reading comprehension. They are encouraged to learn and use most effective approaches in reading and comprehending texts and complete their reading tasks.

On the other hand, in order to help students develop their task knowledge, teachers must teach their students effective note-taking skills to be used as a guide or reference in their reading activities. The students' ability to take notes of learned concepts and effectively use information derived from the text will help them understand the demand of a given reading activity and achieve their goals in comprehension.

The study highlights that students require further development in previewing reading materials to grasp their length, structure, and subject matter. Strengthening students' ability to peruse texts strategically before in-depth reading could enhance their comprehension by providing better context and organization of the material. Implementing targeted interventions—such as guided reading sessions, structured preview techniques, and discussions on text structure—could help address this gap and improve overall reading proficiency.

In addition, students' ability to make predictions about the text based on the words used still needed improvement. Given these findings, students may learn to scan and skim through reading materials to understand their length, structure, and subject matter. These reading strategies will allow them to be familiar with the text to be read and achieve success in reading.

On the other hand, students still need to improve their ability to revise predictions as they gain more information from the text. Thus, Senior High School students may acquire the skill in making predictions by exposing themselves to various reading materials and employ relevant reading strategies. Gaining more information from the text through top-bottom or bottom-up strategies can help them hone their schema and eventually read well and, make predictions and revise them as they go along their reading tasks. Moreover, students may be given the chance to make effective use of information derived from the texts they have read and do activities like making predictions and revising them as learners draw on prior knowledge to activate interaction with the text.

The policymakers in the Department of Education must provide more training or seminar workshops for teachers to improve their skills in metacognitive knowledge and reading strategies. These can allow the teachers to effectively teach their students how to utilize their metacognitive knowledge and reading strategies.

Lastly, among the five levels of comprehension skills, Senior High School students' critical evaluation needed improvement. Teachers can help their students develop their critical thinking skills through giving them reading activities that will require them to construct knowledge more effectively. However, it is crucial that students grasp the meaning of the text so they can integrate their acquired knowledge with their schemata. Thus, students' literal and interpretative levels of comprehension must be reinforced so they can understand information better. This can be done through constant exposure to reading materials and answering comprehension questions relevant to the texts. Meanwhile, students' integrative and creative levels of



comprehension can be strengthened through hands-on reading activities that will require the students to apply their knowledge and create relevant and meaningful encounter with the texts.

Overall, a conscious effort to increase comprehension skills through metacognitive knowledge and reading strategies is vital in developing the comprehension skills of the students, especially in Senior High School. Given the small sample size of this research, which focused on Senior High School students in the Mati Northwest District of the Schools Division of the City of Mati, future studies should consider expanding to other districts within the division and include students from different educational levels for broader and more conclusive findings. Additionally, while this study employed reading comprehension tests specific to Senior High School students, further research utilizing standardized comprehension tests is recommended to explore correlations between metacognitive knowledge and reading strategies across diverse student populations. This approach can provide stronger insights into the effectiveness of metacognitive instruction in enhancing reading comprehension.

Also, this study focused only on the students' reading comprehension performance. Further research may be conducted to investigate the students' vocabulary and other aspects of language, like their skills in writing and listening which can also contribute to enhancing comprehension and academic success. Expanding future research beyond reading comprehension to examine students' vocabulary writing and listening skills would provide a more comprehensive understanding of language proficiency and its impact on academic success. Vocabulary development plays a crucial role in comprehension, while strong writing and listening skills contribute to effective communication and deeper engagement with texts. Investigating these aspects could help educators implement well-rounded instructional strategies that support overall literacy growth and enhance students' ability to process and understand information across multiple domains.

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