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## The Relationship Between Secondary School Students' Use of Metacognitive Reading Strategies and Their Reading Achievement

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### Article info

### Abstract

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This study aimed to investigate how the reading abilities of ninth-grade Ethiopian students were related to their use of metacognitive reading strategies. A mixed-methods design was employed, incorporating data-gathering instruments such as the reading comprehension part of Test of English as a Foreign Language (TOEFL), the Metacognitive Reading Strategies Inventory (MARS), and semi-structured interviews. One hundred and fifty students (68 men and 82 women) took part in the reading test and filled out the questionnaire. Among them, six students were interviewed. The findings indicated a significant relationship between the utilization of metacognitive reading strategies by ninth-grade Ethiopian students and their reading proficiency, displaying a moderate level of correlation. The utilization of global and problem-solving reading strategies by students showed a significant correlation with their reading performance, whereas no correlation was detected between students' use of reading support strategies and their reading performance. Regarding strategy preferences, the research revealed that high and medium achievers predominantly employed problem-solving strategies, followed by global and support strategies. On the other hand, low-achieving students used global reading strategies relatively more frequently, followed by support and problem-solving strategies. The qualitative data also corroborated the quantitative findings, revealing that high achievers demonstrated a more advanced understanding of metacognitive reading strategies, particularly problem-solving and global strategies, than did low and medium achievers. Similarly, medium achievers showed a better understanding of these strategies than low achievers.

**Keywords:** metacognitive reading strategies, reading proficiency, reading strategies, strategy preference.

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## 1. Introduction

The widespread and significant role of the English language in global communication has been a prominent topic of discussion. Its influence extends across academic and nonacademic domains worldwide, including the context of Ethiopia. In Ethiopia, English serves multiple crucial functions. Apart from its role in education, as Berhane and Mishra (2019) noted, English language serves as the primary medium of communication in various business and government entities such as insurance companies, banks, and telecommunications, particularly in written correspondence. Berhane and Mishra added that it is also commonly utilized on the websites of numerous organizations, including prominent entities like the Commercial Bank of Ethiopia, Ethio-Telecom, and Ethiopian Airlines.

Ethiopia is a multilingual country with more than 80 languages (Samuel & Tamiru, 2020). In this multilingual context, students need to learn multiple languages, including their mother tongue, one national language, and one regional language. Additionally, English instruction begins in the first grade and becomes the primary medium of teaching from grade nine onward (Ministry of Education, 1994, 2018).

Mastering the reading skill is crucial for the academic success of students who are learning English as a second, or foreign, language. It has a substantial impact on their overall performance. In this regard, Eskey (2005) has highlighted the dual nature of reading: It serves as a tool for language acquisition, providing comprehensible input, and it is an important skill in itself. Similarly, Grabe (2002) points out that many foreign language students prioritize reading as a significant goal, especially in EFL contexts. Grabe emphasizes that, in most EFL settings, students aspire to attain proficiency in reading as their primary objective.

In Ethiopia, the instruction of reading commences at the elementary stage, covering fundamental concepts such as letter sounds, blends, diphthongs, digraphs, and irregular sounds (English for Ethiopia, 2017, p. ii). These basic reading skills are taught because they are recognized as necessary steps forward for the students' future reading ability. At secondary and tertiary levels, students are expected to engage with diverse subject matters in English, necessitating advanced reading skills for comprehension. Proficiency in reading is, thus, crucial for academic success across primary, secondary, and tertiary education levels in Ethiopia.

However, research findings, reports from organizations such as Ministry of Education (MOE), United States Agency International Development (USAID), and various conference papers have indicated that Ethiopian students' proficiency in reading is significantly low. Most students who have completed primary school struggle to comprehend English texts at their grade level (Fitsum, 2020, p. 58). Furthermore, the MOE (2020) reported

average English reading comprehension score of 29.52% for fourth-grade students and 34.32% for eighth-grade students. Even at the tertiary level, Motuma (2019) found that half of the students were unable to answer at least 50% of comprehension questions. According to the Ethiopian Education Development Roadmap's (2018) report, students lack the necessary literacy and numeracy skills required for secondary education.

Although the problem has been observed across different levels, this study specifically focused on ninth-grade students. The researchers, who were former English teachers in secondary school, noticed that these students struggled to achieve basic results in reading assessments and lacked interest in reading activities. In support of this, Abiy (2005), Amlaku (2013), and Yenus (2017) reported, in their studies, that the reading ability of Ethiopian secondary school students was declining. It was also noted that the students' reading proficiency level does not align with the academic expectations set by the curriculum. Despite this, the students are expected to engage with complex, academic reading material, which aims to help them develop reading subskills and explore new learning methods (MOE, 2008, p. iii).

Existing literature indicates that students' difficulties in comprehending texts may stem from their limited and inappropriate application of reading strategies (Eskey, 2005; Grabe, 2009; Sheorey & Mokhtari, 2001). In general, it is widely agreed that students' ability to comprehend what they read is connected to the strategies they use. "Many learners who are acquiring a second language prioritize the development of effective comprehension strategies when it comes to reading" (Brown & Lee, 2015, p. 401). The main objective of this study was to explore how students' utilization of metacognitive reading strategies relates to their reading performance. Specifically, the study attempted to achieve two main objectives: (a) to investigate how students' reading strategies relate to their reading comprehension and (b) to determine the most frequently employed strategies among students at varying proficiency levels using a mixed-methods approach.

## 2. Literature Review

In a broader sense, Grabe and Stoller (2011) stated that reading involves extracting information from a text and forming an interpretation of that information. Gascoigne (2008) noted that reading is the readers' interaction of their perception with the text in order to derive meaning. During reading, the readers need to consistently connect their existing knowledge with the text, as the meaning of a text is not solely contained within the sentences but is also influenced by the readers' prior knowledge and their approach to the text (Alderson, et al., 2015; Cook, 2008; Zadina, 2008). Therefore, a more comprehensive and widely accepted explanation of reading is that meaning is constructed through the interaction of both the text and the reader. As Alderson

et al. (2015) and Linse (2005) stated reading is a cognitive process that requires higher-order thinking skills and goes beyond simply decoding words. It involves making inferences, understanding implied meanings, discerning the writer's intention, and connecting background knowledge to the text. Higher-order skills refer to the cognitive capabilities of the reader that can be employed to tackle comprehension obstacles while reading. Grabe (2009) also articulates that the readers' capacity to monitor and assess their own understanding and metacognitive processes during reading is crucial.

The importance of learning strategies in language acquisition has increased in significance since the emergence of cognitive theory in the 1970s and 1980s. This is evident in the growing influence of cognitive theory on individual variations in language learning among learners, as noted by Cohen (2011) and Nyikos and Oxford (1993). Cognitive theory encourages learner-centered teaching approaches that promote individual learning and learner autonomy (taking responsibility for their learning) by prioritizing the individual learner's needs over the teacher's or institution's interests.

Learning strategies for L2s are "specific actions, behaviors, steps, or techniques—such as seeking out conversation partners or giving oneself encouragement to tackle a difficult language task—used by students to enhance their own learning" (Hsiao & Oxford, 2002, p. 369). Extensive literature in this field has consistently demonstrated that the application of language learning strategies contributes to improved proficiency in mastering the target language (Cohen, 2011; Grabe, 2009; Nyikos & Oxford, 1993).

Another important concept raised in this era was metacognition. Flavell (1979) coined the idea of metacognition as thinking about thinking, highlighting individuals' awareness of their cognitive processes and their ability to regulate thinking through methods like organization, monitoring, and adjustment. Flavell stressed the significance of metacognition as a crucial component of successful learning, encompassing self-regulation, self-reflection, and the development of effective problem-solving techniques.

The introduction of language learning strategies gave rise to the development of reading strategies as well. Eskey (2005) highlighted a significant transformation during this era, moving away from the traditional bottom-up reading models that concentrated on extracting meaning from the text alone towards a top-down approach that emphasized the reader's cognitive processes. This shift reflects the recognition of reading as an active, purposeful, and creative mental activity—a process of constructing meaning from a text based on new information and the reader's existing knowledge, emotions, and opinions (Eskey, 2005). Following the top-down reading approach, readers employ various strategies to address comprehension challenges.

Reading comprehension strategies, according to Grabe (2009), are "processes consciously controlled by the reader to solve comprehension problems" (p. 221). The main goal of reading comprehension is to achieve understanding, and as Graesser (2007) states, reading strategies are actions taken in specific situations to improve comprehension. Despite other influencing factors like collaborative assessment, as researched by Rakhshan and Fathi (2022), which contribute to the development of students' reading skills and independence by involving them in the assessment complexity and shifting them from passive recipients to active participants in the assessment process, reading strategies have garnered attention from researchers due to their significant impact on students' comprehension.

Grabe (2009) classified the reader's knowledge or skill necessary for comprehending text as metalinguistic knowledge and metacognitive knowledge. Metalinguistic knowledge involves understanding language elements such as letters, sounds, words, sentences, texts, and genres and how they interact. On the other hand, metacognitive awareness allows readers to reflect on their planning, goal setting, task processing, progress monitoring, problem recognition, and problem-solving. Metacognitive awareness, which has been discussed by various scholars, is the readers' ability to plan, observe, and evaluate their own knowledge and conscious thinking while reading (Flavell, 1979; Pressley & Gaskins, 2006). It encompasses the deliberate and conscious methods that readers employ to improve their understanding of a text (Alderson et al., 2015; Gascoigne, 2008; Grabe, 2009; Sheorey & Mokhtari, 2001). Metacognitive awareness not only entails comprehending learning strategies but also actively employing them in a deliberate and purposeful manner (Grabe & Stoller, 2011).

According to Flavell, the monitoring of various cognitive activities arises from the interaction of four categories of phenomena: (a) knowledge about our thinking processes; (b) our experiences during thinking (metacognitive experiences); (c) the goals or tasks we have; and (d) the actions or strategies we employ. Flavell expanded on the concept of metacognitive knowledge, which refers to our stored understanding of human cognition, cognitive tasks, goals, actions/strategies, and experiences. Metacognitive experiences, on the other hand, encompass any conscious cognitive or affective experiences related to intellectual activities. Goals or tasks denote the objectives of cognitive endeavors, whereas actions or strategies represent the cognitive processes or behaviors utilized to achieve these goals. With the aim of monitoring cognitive progress, metacognitive strategies are structured processes employed to regulate one's own cognitive activities and ensure the fulfillment of cognitive goals, such as solving a math problem, writing effectively, or understanding reading material. These interconnected components are utilized by individuals with strong metacognitive awareness

to control their own learning process and to plan and oversee ongoing cognitive activities.

In reference to the significance of metacognitive reading strategies for students' reading proficiency, Mokharti and Reichard (2002) emphasized the value of understanding these strategies, not just in how students interact with the text but also in their impact on effective reading comprehension. Mokharti and Reichard highlighted that proficient readers demonstrate a mastery of these strategies, taking responsibility for their cognitive processes and using them effectively. Grabe (2009) also added that skilled readers possess the ability to discern when, how, and why to employ reading strategies, understanding the appropriate contexts for their application. They also engage in various metacognitive activities such as planning, monitoring, evaluation, and adjustment, showcasing their capacity for higher-order cognitive functions.

So far, there have been investigations carried out on reading comprehension. Yenus (2018) carried out an experimental study to explore how explicit reading strategy instruction impacted the reading comprehension skills of Ethiopian EFL students. The study involved 123 students from Bahir Dar University, Ethiopia, who were divided into two groups (control and experimental) through random assignment. The findings indicated that students who received reading strategy instruction demonstrated more significant improvement in reading comprehension compared to those taught using conventional skill-based methods. Zahra et al. (2023) explored the impact of metacognitive awareness training in a flipped classroom setting on the reading skills and self-regulation of Iranian EFL learners. Fifty-six, low-intermediate EFL students at a private language school in Kerman, Iran, were part of the study. They were assigned to an experimental group and a control group, with 28 students in each group. The selection was made using convenient sampling, and the study was conducted in a flipped classroom context. The results revealed that students in the treatment group showed greater improvement in both reading comprehension and self-regulation compared to the control group. These findings were further supported by the semi-structured interviews, ultimately confirming that integrating metacognitive development in flipped classrooms can enhance EFL learners' reading comprehension and self-regulation abilities.

In addition to the above experimental studies, there are also correlational studies conducted to investigate the relationship between the students' use of reading strategies and their reading proficiency. Zeleke and Zeleke (2022) conducted a study to explore how students' use of metacognitive reading strategies relates to their performance in English reading. The research involved 32 undergraduate trainees specializing in Sidama language and literature during the summer of 2019. The participants had taken various English language courses, including those focused on reading skills. The study



indicated that the participants actively engaged with all three categories of reading strategies (global, problem-solving, and support strategies) as measured by the Survey of Reading Strategies (SORS). The findings further showed a clear preference for problem-solving strategies compared to support strategies. However, the analysis using Pearson correlation indicated no substantial correlation between the general utilization of metacognitive reading strategies and the students' total reading test scores. Zeleke and Zeleke concluded that the students' diverse range of proficient reading strategies does not strongly correlate with their actual reading performance. This divergence could arise from the implementation of these strategies without guidance or on a subconscious level.

Musema and Geremew (2023) also conducted a correlational study at Wollo University in Ethiopia to investigate the relationship between reading strategies and the reading achievement of EFL university freshman students. The study involved 60 participants from the college of social science, with an equal distribution of high and low achievers. The results indicated that high achievers consistently utilized a broader variety of reading strategies more frequently compared to low achievers, and this disparity between the two groups was found to be statistically significant.

Prior research predominantly focused on university students' reading performance in relation to their utilization of reading strategies, neglecting the examination of secondary school students and failing to combine quantitative data with qualitative data through mixed method approaches. As a result, this study attempted to fill this gap by examining the relationship between the reading strategies employed by ninth-grade students at Ediget Chora Secondary School in Ethiopia and their reading performance. Specifically, the study attempted to answer the following main research questions using a mixed-methods approach:

1. Is there a significant relationship between students' use of metacognitive reading strategies and their reading comprehension?
2. What are the most frequently utilized metacognitive reading strategies among students at various levels?

### **3. Methodology**

The current research was aimed at investigating how ninth-grade Ethiopian students utilize metacognitive reading strategies and assessing the relationship between these strategies and their reading performance. Additionally, the study sought to identify the most frequently employed strategies among these students. To achieve these goals, a mixed-methods design was employed to gain a better understanding of the research problem by combining both quantitative (broad numeric trends) and qualitative (in-depth perspectives).

### **3.1. Participants**

The study involved ninth-grade students from Ediget Chora General Secondary School, a government secondary school in Addis Ababa, Ethiopia. The study centered on ninth-grade students, as they are embarking on their high school journey, which necessitates engaging with more complex and extensive reading materials compared to their previous years in school. We used simple random sampling and purposive sampling methods to determine the study's setting and participants. To select three ninth-grade classes from the school, a simple random sampling method was employed. From each class, 50 students were chosen using the same sampling method, resulting in 150 participants. Finally, six participants were purposively selected for semi-structured interviews based on their reading test scores, encompassing two students from each performance level (high, medium, and low).

### **3.2. Materials and Instruments**

Data were gathered through the implementation of reading comprehension part of Test of English as a Foreign Language (TOEFL), the utilization of the Metacognitive Reading Strategy Inventory (MARSI), and conducting a semi-structured interview.

#### ***3.2.1. The Test***

The students' reading abilities were assessed using a reading test, specifically the Test of English as a Foreign Language (TOFEL). TOFEL is a standardized test designed to measure the language competency of ESL, or EFL students, including their reading skills. To evaluate students' reading comprehension abilities, this study adapted and utilized the reading comprehension section, which consisted of 20 multiple-choice items. The questions range from basic scanning to in-depth comprehension. In terms of vocabulary, the assessments encompass straightforward reference queries like what the pronoun *they* in line 4 refers to, as well as inferring the meanings of unfamiliar words, such as according to the passage, the word... in line... has a meaning closest to....

#### ***3.2.2. The Questionnaire***

Mokhtari and Reichard (2002) introduced the MARSI as a tool for evaluating the metacognitive awareness and perceived utilization of reading strategies in adolescent and adult ESL students when engaging with academic materials. This study also utilized the MARSI to gather insights into the students' perceptions regarding their application of these reading strategies while reading academic texts. In total, MARSI contains 30 close-ended items, which are divided into three subcategories: global strategies, support strategies, and problem-solving strategies. According to Mokhtari and Reichard (2002),



global reading strategies, which include 13 items, refer to deliberate reading strategies such as monitoring comprehension and planning for reading. Problem-solving strategies, which consist of eight items, encompass strategies directly related to information found in the text, such as paying more attention, adjusting reading speed, and visualizing information. Support reading strategies, comprising nine items, involve essential techniques to improve reading comprehension, such as underlining or highlighting information, using a dictionary, and taking notes (Mokhtari & Reichard, 2002, p. 249).

### ***3.2.3. The Semi-Structured Interview***

The interview aimed to support the quantitative data by exploring a comprehensive understanding of students' preferences and utilization of reading strategies. It involved asking a set of seven broad, open-ended questions based on the prior survey, with additional specific prompts.

### **3.3. Procedure**

The initial step of the evaluation process encompassed the implementation of the TOEFL reading comprehension assessment, comprising 20 multiple-choice questions. While TOEFL is a standardized test meant for assessing the language proficiency of second and foreign language speakers, it was crucial to assess its suitability for ninth-grade students. In this context, two ninth-grade English language teachers from the specific school evaluated the test to determine its alignment with the students' reading proficiency, ensuring that it was neither too challenging nor too easy. To ensure the consistency of the test results, we followed a test-retest method. The retest was conducted a week after the initial test allowing for a comparison of the results to identify any notable differences in the scores. The correlation coefficient for the test-retest was 0.83, exceeding the standard reliability measurement of 0.7 (Cronbach's alpha). Subsequently, students were classified into high, moderate, and low achievers based on the 33<sup>rd</sup>, 66<sup>th</sup>, and 100<sup>th</sup> percentiles. Alongside these classifications, a comprehensive analysis across the entire student cohort was conducted to assess the extent to which these students, as a group, employed metacognitive reading strategies.

Soon after the students completed the test, they filled out the MARSII questionnaire. The questionnaire comprises 30 items organized into three subscales. To ensure the reliability of the questions, the Cronbach's alpha was calculated at 0.82, signifying a satisfactory level of consistency. The data gathered from tests and surveys were analyzed using the statistical package for social sciences (SPSS 24).

Finally, semi-structured interviews were conducted for six students who took the test and completed the questionnaire. Upon finishing the data collection phase, all the spoken content in Amharic was transcribed and

translated into English. The subsequent task involved the identification of key concepts, which entailed a thorough and iterative review of the texts. Each concept was systematically categorized based on its accompanying phrases and words. Following the initial coding phase, the researchers structured the identified concepts into overarching categories and subcategories, specifically global reading strategies, problem-solving strategies, and support reading strategies, reflecting the interconnectedness between the concepts. After open coding was done, the researchers categorized the concepts into broader groups based on the concept relationship. The interview findings were then utilized to support the quantitative data in the analysis and discussion section.

### **3.4. Data Analysis**

Several statistical techniques and methodologies were employed to examine the data. The students' inputs were assessed through the use of the (SPSS 24). The quantitative data analysis involved the use of descriptive statistics and a Pearson's correlation coefficient. We utilized descriptive statistics, such as counts, frequencies, means, and standard deviations, to examine the data in accordance with Muijs' (2004) suggestion that descriptive statistics be utilized to compute the respondents' count, mean, standard deviation, and standard error for each group. Moreover, in line with Muijs' (2004) recommendation for evaluating the correlation between two variables, we employed the Pearson correlation coefficient to explore the relationship between students' use of metacognitive reading strategies and their reading comprehension.

Six students, two from each level, took part in the interview, which took place subsequent to the collection of reading test and questionnaire data. The data gathered from these interviews were then analyzed based on their recurring themes, followed by the selection and grouping of the most relevant concepts within broader categories.

## **4. Results and Discussion**

### **4.1. Results**

Table 1 displays the descriptive statistics, including the means and standard deviations, for the overall metacognitive reading strategies as well as the three subscales utilized by ninth-grade students. This data is analyzed both for the entire group of students and across the three different performance levels.

Table 1 demonstrates the ways in which students of different achievement levels employ metacognitive reading strategies, both overall and within subcategories. Overall, the students demonstrated a moderate level of engagement with these strategies, as quantified by a mean score of 2.88. Upon closer examination, it becomes apparent that problem-solving reading

strategies are the most frequently employed, with a mean score of 3.1. This is followed by global reading strategies, with a mean score of 2.9, and support strategies, with a mean score of 2.65.

**Table 1**

*Summary of Descriptive Statistics of Overall and Subcategories of Strategies*

Strategy	All Ss.		High		Medium		Low	
	M	SD	M	SD	M	SD	M	SD
Global	2.9	.465	3.5	.2	2.7	.32	2.7	.27
Problem-solving.	3.1	.92	4.4	.28	3.7	.31	1.6	.23
Support	2.65	.32	2.7	.3	2.7	.3	2.7	.35
Overall strategies	2.88	.47	3.5	.14	2.9	.16	2.4	.15

*Note.* All Ss. refers to the entire group of students.

The data also indicated varying utilization of metacognitive reading strategies among students at the three achievement levels. High achievers scored 3.5085 (high level), moderate achievers scored 2.9427 (moderate level), and low achievers scored 2.3685 (low level). High and medium achievers demonstrated the highest frequency of utilizing problem-solving strategies, followed by global and support strategies. On the other hand, individuals with lower performance primarily used the global approach, with support and problem-solving strategies following behind. The entire student group employed all subcategories of strategies at a moderate level (scoring between 2.5 and 3.4), yet individual variability was evident, with some employing strategies at a low level and others at a high level.

The first research question aimed to examine how students' utilization of metacognitive reading strategies relates to their reading performances.

The results presented in Table 2 demonstrate specifically that the overall metacognitive reading strategies showed a significant relationship with a  $p$  value of 0.000 and an  $r$  (Pearson correlation) of 0.887. Furthermore, when examining the different reading strategy subscales, the data revealed that global and problem-solving reading strategies were significantly correlated with students' reading achievement, with  $p$  values of 0.020 and 0.000, respectively. In contrast, there was no correlation between support strategy and reading test performance, as indicated by a  $p$  value of 0.649, surpassing the standard cutoff of 0.05.

**Table 2***Correlation Between Students' Strategy Use and Their Reading Score*

		Reading Score	Overall strategies	Global	Problem-solving	Support
Reading score	Pearson C. Sig. (2-tailed)	1	.887**	.424*	.910**	.037
Overall strategies	Pearson C. Sig. (2-tailed)	.887**	1	.794**	.920**	.200*
Global	Pearson C. Sig. (2-tailed)	.424*	.794**	1	.561**	-.059
Problem-solving	Pearson C. Sig. (2-tailed)	.910**	.920**	.561**	1	.033
Support	Pearson C. Sig. (2-tailed)	.037	.200*	-.059	.033	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed)

Furthermore, the Pearson correlation indicates the level of correlation between the variables, with values greater than 0.5 considered strong, values between 0.3 and 0.5 considered moderate, and values below 0.3 considered weak. Specifically, the correlation for global reading is 0.424, for problem-solving it is 0.910, and for support it is 0.037 (Muijs, 2004, p. 145). These results suggest a moderate correlation between the global reading strategy and students' reading test performance, as well as a strong correlation between the problem-solving strategy and students' test performance.

The second research question aimed to identify the most preferred reading strategies. Descriptive statistics were employed to analyze subcategories and individual strategies.

The data in Table 3 illustrate that high achievers consistently utilized global reading strategies at a high level exceeding 3.5 for all strategies. The only strategies used moderately were *referring tables, figures, and pictures in texts to enhance comprehension* (mean of 3.38) and *using context clues to enhance comprehension of the text* (mean of 3.33). In contrast, medium and low achievers employed all global strategies at a moderate level, but with differing mean scores. Medium achievers scored between 2.56 and 3.05, while low achievers scored between 2.43 and 2.83. Exceptionally, the strategy *checking my understanding when encountering conflicting information* was employed at a low level (mean of 2.43) by low achievers. The most frequently used global reading strategies include having a purpose in mind, using tables, figures, and pictures in text, using typographical aids like boldface type and italics to identify key information, and using prior knowledge for better understanding of the text.

**Table 3**  
*Descriptive Statistics of Global Reading Strategies*

No.	Strategies	High		Medium		Low	
		M	SD	M	SD	M	SD
1.	I have a purpose in mind when I read.	3.7	.7	3.5	.8	2.6	.7
2.	I preview the text to see what it's about before reading it.	3.5	.6	2.7	.9	2.7	.8
3.	I think about what I know to help me understand what I'm reading.	3.6	.7	2.6	.8	2.5	.7
4.	I check whether the content of the text fits my purpose.	3.6	.7	2.6	.6	2.6	.8
5.	I skim the text first by noting characteristics like length and organization.	3.6	.7	2.7	.7	2.8	.6
6.	I decide what to read closely and what to ignore.	3.5	.5	2.6	.7	2.7	.6
7.	I use tables, figures, and pictures in text to increase my understanding.	3.4	.5	2.6	.7	2.9	.6
8.	I use context clues to help me better understand what I'm reading.	3.3	.6	2.6	.6	2.7	.8
9.	I use typographical aids like boldface type and italics to identify key information.	3.6	.7	2.6	.6	2.8	.8
10.	I critically analyze and evaluate the information presented in the text.	3.5	.8	2.6	.7	2.7	.7
11.	I check my understanding when I come across conflicting information.	3.5	.7	2.7	.7	2.4	.8
12.	I try to guess what the text is about when reading.	3.6	.6	2.7	.7	2.8	.7
13.	I check to see if my guesses about the text are right or wrong.	3.5	.8	2.8	.5	2.5	1

Table 4 shows high and medium achievers tend to use problem-solving strategies more frequently than global and support strategies. High achievers scored a mean value of 4.23–4.69, while medium achievers scored 3.5–3.88. Although both groups showed a high usage of problem-solving strategies, there are variations in the individual items scored between the two groups. High and medium achievers often utilized strategies which encompassed activities such as guessing the meanings of unknown words, reading slowly but carefully, and adjusting reading speed. In contrast, low achievers utilized all items of problem-solving strategies at a low level, with mean values of 1.6–1.72.

**Table 4**  
*Descriptive Statistics of Problem-Solving Strategies*

No	Strategies	High		Medium		Low	
		M	SD	M	SD	M	SD
14	I read slowly but carefully to be sure I understand what I'm reading.	4.5	.7	3.5	.8	1.6	.6
15.	I try to get back on track when I lose concentration.	4.3	.7	3.7	.8	1.6	.6
16.	I adjust my reading speed according to what I'm reading.	4.4	.6	3.8	.7	1.6	.7
17.	When text becomes difficult, I begin to pay closer attention to what I'm reading.	4.3	.6	3.6	.9	1.6	.6
18.	I stop from time to time to think about what I'm reading.	4.4	.6	3.9	.8	1.6	.6
19.	When text becomes difficult, I reread to increase my understanding.	4.3	.6	3.5	.9	1.7	.6
20.	I try to picture or visualize information to help me remember what I'm reading.	4.2	.7	3.6	.7	1.6	.6
21.	I try to guess the meaning of unknown words or phrases.	4.7	.6	3.7	.8	1.7	.6

Table 5 indicates that the support strategies were the least utilized when compared to global and problem-solving strategies. The support strategy was moderately used across all three student levels.

We utilized semi-structured interviews to complement the quantitative data gathered from student surveys. The purpose of these interviews was to explore participants' perspectives on possible differences in their understanding and application of metacognitive reading strategies. The findings revealed that high achievers showed a better understanding of global and problem-solving reading strategies compared to their medium- and low-achieving counterparts. They frequently articulated employing strategies such as drawing on prior knowledge, skimming the content, and noticing typographical cues like boldface and italics. In one example, S1 stated clearly, "I can predict the content from the title alone," adding, "I confirm my predictions as I read the text". Meanwhile, S2 noted, "I pay closer attention to tables, graphs, and maps in the text to aid my understanding".

When asked how they dealt with their difficulties in comprehending a text, high achievers stated a number of problem-solving strategies including, reading slowly, rereading, pausing occasionally, paying closer attention, guessing the meaning of unfamiliar words, and imagining or visualizing the content. In line with this, S1 stated, "I usually reread the text when I find it difficult." She added, "I feel that rereading helps me solve my comprehension problem". When it comes to support reading strategies, it appears that every



student mentioned using them to some extent. Students across all levels utilize support strategies, such as taking notes while reading, engaging in discussions about the material, underlining or circling information in the text, and using dictionaries or other reference materials to aid their comprehension.

**Table 5**  
*Descriptive Statistics of Support Strategies*

No.	Strategies	High		Medium		Low	
		M	SD	M	SD	M	SD
22.	I take notes while reading to help me understand what I'm reading.	3.2	.7	2.7	.9	2.4	.9
23.	When text becomes difficult, I read aloud to help me understand what I'm reading.	2.7	.7	2.5	.7	2.4	.8
24.	I summaries to reflect on key ideas in the text.	2.3	.6	2.7	.6	2.6	.8
25.	I discuss my reading with others to check my understanding.	2.5	.7	2.6	.8	2.7	.8
26.	I underline or circle information in the text to help me remember it.	2.5	.6	2.7	.6	2.9	.7
27.	I use reference materials such as dictionaries to help me understand what I'm reading.	2.6	.9	2.7	.8	2.7	.7
28.	I paraphrase (restate ideas in my own words) to better understand what I'm reading.	2.7	.7	2.7	.7	2.7	.6
29.	I go back and forth in the text to find relationships among ideas in it.	2.7	.6	2.7	.7	2.7	.8
30.	I ask myself questions I like to have answered in the text.	2.8	.8	2.6	.7	2.6	.7

The interview findings indicated that students with high and medium levels of achievement demonstrated a better understanding of global and problem-solving strategies compared to those with low achievement. It was observed that low-achieving students generally lacked awareness of most metacognitive reading strategies. However, students across all performance levels reported similar awareness of certain metacognitive strategies, such as having a specific purpose while reading, skimming the text to identify key features, rereading, reading slowly, inferring the meaning of unfamiliar words, taking notes, underlining or circling information, and engaging in discussions when reading academic texts.

#### 4.2. Discussion

This study was an attempt to explore the relationship between students' use of metacognitive reading strategies and their reading ability. The Pearson

correlation coefficient was utilized to explore the relationship between students' use of strategies and their reading performance. The analysis revealed a significant positive correlation between students' employment of the metacognitive reading strategy and their reading performance. Essentially, high achievers, who performed well in the reading test, showed a higher usage of strategies compared to medium and low achievers. Similarly, medium achievers utilized more strategies than low achievers. This suggests that proficient readers demonstrate a greater understanding of metacognitive strategies, whereas struggling readers display a deficiency in awareness and implementation of these strategies. In support, Sheorey and Mokhtari (2001) asserted that successful readers apply more sophisticated reading strategies than less successful ones. Grabe (2009) emphasized the importance of active reading comprehension by stating that skilled readers possess a wide range of strategies, which they use in combination to achieve their reading goals. This includes metacognitive processing such as planning, monitoring, evaluating, and repairing, which are not solely higher-level applications.

Previous research has shown conflicting findings regarding the relationship between students' use of reading strategies and their comprehension. Asalefew (2018), Belilew (2015), and Zeleke and Zeleke (2022) found a weak correlation between students' use of metacognitive reading strategies and their comprehension. Belilew (2015) also concluded that implementing reading strategies did not show either a positive or a negative correlation with reading comprehension achievement. Conversely, Musema and Geremew (2023) and Do and Phan (2021) demonstrated a significant association between students' use of reading strategies and their reading performance. Additionally, the research identified that students' proficiency levels predict their metacognitive awareness in reading, with higher-ability students more frequently employing reading strategies compared to those with lower reading abilities.

While individuals varied in their usage of strategies—some students use them extensively, some to a moderate level, and others minimally—there was a general tendency among students to use metacognitive reading strategies moderately. This observation is supported by Asalefew (2018) and Belilew (2015), who noted that Ethiopian students typically fall within the moderate range of strategy usage. When considering the three subscales of strategies, the research revealed that problem-solving strategies were most frequently utilized, followed by global and support strategies. Among high and medium achievers, problem-solving strategies were the most prevalent, followed by global and support strategies. However, low achievers exhibited a different pattern, favoring global strategies followed by support and problem-solving strategies. Previous studies (Harimurti et al., 2023; Li, 2010; Par, 2019; Zeleke

& Zeleke, 2022) have also highlighted the predominance of problem-solving strategies, followed by global and support strategies.

Different achievement levels had varying preferences for specific reading strategies. High achievers tend to employ a wide range of strategies, such as guessing about the text, utilizing tables, maps, and figures, deciding what to focus on and what to ignore, connecting new information with existing knowledge, visualizing concepts, and critically evaluating the text as a whole. On the other hand, students at every level of reading ability often employ various strategies, such as reading with a specific purpose in mind, skimming (quickly reviewing a text), adjusting their reading pace, revisiting challenging sections, making annotations, engaging in peer discussions, and highlighting key points.

### **5. Conclusion and Implications**

The study found a significant correlation between students' overall utilization of metacognitive reading strategies and their reading proficiency. The students who employ strategies more frequently demonstrated higher reading proficiency, while those using strategies less frequently showed poorer performances. Specifically, the results showed problem-solving strategies had a strong correlation with the students' reading performance, while global strategies showed a moderate correlation. On the other hand, support strategies did not show a significant relationship with the reading performance of students. Qualitative findings further supported this by exploring that high achievers demonstrated a greater understanding of problem-solving and global strategies than medium and low achievers. Likewise, medium achievers showed higher awareness of these strategies compared to their lower-achieving counterparts.

The research revealed that high achievers not only employ a wider range of strategies but also tend to prioritize problem-solving strategies, followed by global and support strategies. Similarly, those with moderate achievement also showed a preference for these strategies, though with less frequency than high achievers. Conversely, individuals with low achievement tend to use global strategies more often, followed by support and problem-solving strategies, though to a lesser extent. Variations were observed in the frequency of overall and subscale strategies used by students at different achievement levels.

The research results indicate that the insufficient and uneven use of reading strategies may be associated with the low reading performance of ninth-grade students. Hence, it is important to ensure that students have access to a variety of effective reading strategies to use when engaging with reading materials. To address this issue, teachers should first equip themselves with a diverse set of reading strategies and then introduce these strategies to their

students. They should create opportunities for students to apply these strategies when working with reading materials. Furthermore, authors of educational materials should consider incorporating clear explanations of reading strategies into students' textbooks, providing them with a valuable resource for reference.

This research emphasized the significance of utilizing metacognitive reading strategies to improve students' reading comprehension. It also explored the relationship between the application of these strategies and the level of comprehension achieved. However, this research specifically focused on exploring the link between strategy implementation and the reading performance of ninth-grade EFL students. Therefore, future studies should aim to expand this investigation by incorporating additional variables to ascertain the potential relationship between students' reading proficiency and their utilization of these strategies.

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