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READING STRATEGY USE AMONG GRADE 11 EFL STUDENTS: COGNITIVE, METACOGNITIVE, AND COMPENSATION STRATEGIES

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ABSTRACT

This study examined Grade 11 Ethiopian EFL students' reported use of cognitive, metacognitive, and compensation reading strategies and explored how they described their strategy use during reading. A cross-sectional convergent mixed-methods design was employed. Quantitative data were collected from 100 students using an adapted 36-item reading strategy questionnaire, while qualitative data were obtained through semi-structured interviews with 12 purposively selected participants. Descriptive statistics and thematic analysis were used to analyze the quantitative and qualitative data, respectively. The results showed moderate reported use of cognitive ($M = 3.43$, $SD = 0.52$), metacognitive ($M = 3.25$, $SD = 0.69$), and compensation ($M = 3.24$, $SD = 0.51$) strategies, with cognitive strategies receiving the highest mean score. Cognitive strategies also had the largest high-use group (49%), whereas compensation strategies had the largest moderate-use group (49%). Interview findings showed that students used strategies such as identifying main ideas, summarizing, rereading difficult sections, monitoring comprehension, inferring meaning from context, using dictionaries, and seeking assistance. Students often combined different strategies in response to particular reading demands rather than using them as separate processes. The findings suggest that reading instruction should provide opportunities for students to practice and reflect on how different strategies can be combined to address comprehension difficulties and support strategic reading.

Keywords: Reading strategy use, cognitive reading strategies, metacognitive reading strategies, compensation reading strategies, EFL students

INTRODUCTION

Reading is a fundamental language skill and a central component of academic learning for learners of English as a Foreign Language (EFL). Through reading, learners acquire vocabulary, develop linguistic and background knowledge and access information across academic disciplines (Anderson, 2003; Grabe & Stoller, 2011). Effective reading therefore requires more than decoding words and sentences; learners must actively construct meaning by integrating textual information with prior knowledge and higher-order cognitive processes. They must also monitor comprehension, make inferences, recognize difficulties, and adjust their reading behavior when understanding is inadequate (Anderson, 2003; Grabe & Stoller, 2011).

Reading strategies are particularly important in this process because they enable learners to approach texts purposefully, overcome comprehension difficulties, and regulate their reading behavior. Oxford (1990) conceptualized language learning strategies as

deliberate actions used to facilitate learning, while Afflerbach et al. (2020) distinguished strategies from skills by emphasizing their intentional and adaptive nature. In the context of reading, cognitive strategies involve direct engagement with textual information through actions such as identifying main ideas, summarizing, making inferences, and connecting new information with prior knowledge. Metacognitive strategies involve planning, monitoring, and evaluating comprehension, whereas compensation strategies help learners address linguistic or comprehension difficulties through such practices as contextual guessing and rereading (Oxford, 1990). Although conceptually distinct, these strategies may operate together as learners construct and regulate meaning during reading.

Research has consistently demonstrated the importance of strategic reading and has examined strategy awareness, strategy use, and strategy instruction across different EFL contexts. Studies have investigated metacognitive awareness and reading proficiency (Carrell, 1989; Mokhtari & Reichard, 2002), as well as the contribution of strategy instruction to reading-related outcomes. More recent research has examined metacognitive strategy awareness instruction (Teng, 2020), reading strategy instruction and its relationships with comprehension, motivation, and self-efficacy (Li et al., 2022), explicit strategy instruction among secondary-school EFL learners (Chinpakdee & Gu, 2024), and reading strategy training in relation to strategy use and critical reading ability (Mekuria et al., 2024). Ethiopian studies have likewise examined explicit strategy training and reading outcomes (Getachew et al., 2018), combined strategy instruction (Wendaferew & Damtew, 2023), and reading strategy use among university and secondary-school learners (Aman & Lemu, 2023; Madebo & Gutema, 2024).

Despite this growing body of research, important gaps remain. First, much of the literature has focused on strategy instruction, metacognitive awareness, or relationships between strategy use and reading outcomes rather than providing a category-specific account of students' reported use of cognitive, metacognitive, and compensation strategies. Second, quantitative measures of strategy use indicate the extent or frequency of reported behavior but provide limited insight into how learners understand and enact these strategies during reading. Students' own accounts can clarify what prompts particular strategies, how different strategies are combined, and how learners respond when comprehension difficulties arise.

The value of combining these forms of evidence is demonstrated by the growing use of mixed-methods approaches in reading research (Creswell & Plano Clark, 2018;

Johnson & Onwuegbuzie, 2004). For example, Al-khresheh and Al Basheer Ben Ali (2023) combined questionnaire data from 210 Saudi EFL students with interviews involving 15 English instructors to examine students' metacognitive awareness of reading strategies. Although the study illustrates the value of complementary quantitative and qualitative evidence, its qualitative component represented instructors' perspectives rather than students' own accounts. Moreover, it focused on global, support, and problem-solving strategies rather than the cognitive, metacognitive, and compensation categories examined in the present study. Thus, limited evidence exists that combines category-specific quantitative descriptions of secondary-school learners' strategy use with qualitative accounts from the learners themselves.

This gap is particularly relevant in the Ethiopian secondary-school context. Existing Ethiopian studies have addressed reading difficulties, strategy instruction, strategy use, and related reading outcomes (Getachew et al., 2018; Aman & Lemu, 2023; Wendaferew & Damtew, 2023; Madebo & Gutema, 2024), but comparatively little attention has been given to Grade 11 students' use of cognitive, metacognitive, and compensation strategies as an interconnected set of strategic reading behaviors. There is also limited evidence showing how students' reported strategy use is distributed across low, moderate, and high levels while simultaneously examining how students themselves explain these practices. Addressing this gap is important because secondary-school learners encounter reading demands that differ from those of university students and are preparing for further academic study and high-stakes examinations.

The present study therefore provides a learner-centered, category-specific account of strategic reading by integrating three forms of evidence: (1) the mean level of students' reported use of cognitive, metacognitive, and compensation strategies; (2) the distribution of strategy use across low, moderate, and high levels; and (3) students' qualitative explanations of how they employ these strategies during reading. Rather than proposing a new theoretical model or examining causal effects of strategy instruction, the study seeks to clarify what secondary-school EFL learners report doing when reading and how they themselves describe these strategic practices.

Accordingly, the study investigated Grade 11 EFL students' use of cognitive, metacognitive, and compensation reading strategies in three government secondary schools in Fiche Administrative Town, North Shewa Zone, Oromia Regional State, Ethiopia. Specifically, it examined the mean scores of the three strategy categories,

determined the distribution of students' strategy use across low, moderate, and high levels, and explored students' explanations of how they employ these strategies during reading. By integrating quantitative descriptions with students' qualitative accounts, the study contributes context-specific evidence to the literature on EFL reading strategies and provides implications for reading instruction that supports purposeful and adaptive engagement with English texts. To achieve these aims, the study addressed the following research questions:

1. What are the mean scores of students' self-reported use of cognitive, metacognitive, and compensation reading strategies?
2. What is the distribution of students' self-reported use of cognitive, metacognitive, and compensation reading strategies across low, moderate, and high levels?
3. How do students explain their use of cognitive, metacognitive, and compensation reading strategies?

LITERATURE REVIEW

Reading Strategy Use

Reading strategy use refers to the deliberate actions learners employ to construct meaning, monitor comprehension, and address difficulties during reading (Anderson, 2003; Oxford, 1990). Unlike reading skills, which may become increasingly automatic through practice, strategies involve conscious and potentially adaptive decisions about how to approach a reading task (Afflerbach et al., 2020). This distinction is important because questionnaire-based measures capture students' reported strategic behavior, rather than directly measuring their reading ability or observing their reading processes.

Classification of Reading Strategies

Drawing on Oxford's (1990) framework, the present study examines three complementary categories: cognitive, metacognitive, and compensation strategies. Cognitive strategies involve processing textual information through practices such as identifying main ideas, summarizing, and making inferences; metacognitive strategies involve planning, monitoring, and evaluating comprehension; and compensation strategies help learners address linguistic or comprehension difficulties through contextual guessing, rereading, and other problem-solving techniques (Anderson, 2003; Oxford, 1990). Although analytically distinct, these strategies may operate together during reading.

Empirical Review

International Perspectives on Reading Strategy Use

Empirical research generally supports the importance of strategic reading, but findings are inconsistent regarding which strategy categories learners report using most frequently and how strongly strategy use relates to reading performance. Studies using different populations and measures have reported variation in the prominence of cognitive, metacognitive, and other strategy types, suggesting that no single category is consistently dominant across EFL contexts (Grabe & Stoller, 2011; Mokhtari & Reichard, 2002). For example, Sunggingwati and Ungau (2023) found a significant relationship between metacognitive strategy use and reading comprehension among Grade 12 EFL learners, whereas cognitive strategy use was not significantly related to achievement. Other studies have reported positive outcomes following strategy instruction, including improvements in strategy use and reading-related performance (Chinpakdee & Gu, 2024; Li et al., 2022; Mekuria et al., 2024; Teng, 2020; Rustandi et al. 2025). However, intervention findings cannot necessarily be generalized to students' naturally reported patterns of strategy use.

A further issue concerns the relationship between reported strategy use and actual reading behavior. Questionnaires can provide useful evidence about learners' perceived strategic practices, but self-reports may not fully reflect observable reading behavior because some processes are automatic, difficult to recall, or interpreted differently by learners (Afflerbach et al., 2020). Mixed-methods research can therefore provide additional insight by combining quantitative reports with qualitative accounts of learners' experiences. Al-khresheh and Al Basheer Ben Ali (2023), for instance, combined questionnaire data from Saudi EFL students with instructor interviews to examine metacognitive reading-strategy awareness. Although informative, the qualitative evidence represented instructors' perspectives and focused primarily on metacognitive awareness. This leaves a need for research that examines multiple strategy categories while giving greater attention to students' own explanations of what they do when reading.

Reading Strategy Use in the Ethiopian EFL Context

Ethiopian research has examined strategy instruction, strategy use, learner differences, and reading-related outcomes. Getachew et al. (2018) investigated explicit strategy training among Grade 11 students, while Wendaferew and Damtew (2023) examined combined strategy instruction and students' strategy use and perceptions. Aman

and Lemu (2023) investigated strategy use among university students with different achievement levels, and Madebo and Gutema (2024) examined cognitive and metacognitive strategies among Ethiopian EFL learners. Collectively, these studies confirm the relevance of strategic reading but do not establish a consistent pattern regarding which strategy category Ethiopian learners report using most frequently.

More importantly, limited Ethiopian evidence has brought together category-specific quantitative patterns and students' own qualitative explanations of strategic reading. In particular, little attention has been given to Grade 11 learners' reported use of cognitive, metacognitive, and compensation strategies, their distribution across low, moderate, and high levels, and how they describe applying these strategies during reading. The present study addresses this gap by integrating quantitative descriptions of reported strategy use with students' qualitative accounts. This approach recognizes that self-reported strategy use should not be treated as a direct representation of observed reading behavior but can provide useful evidence about learners' perceived strategic practices and the ways they explain those practices.

Conceptual Framework

The conceptual framework draws primarily on Oxford's (1990) language learning strategy framework and conceptualizes reading strategy use as a multidimensional construct encompassing cognitive, metacognitive, and compensation strategies. As illustrated in Figure 1, the framework focuses on three aspects of students' self-reported reading strategy use: mean scores for each strategy category, the distribution of students across low, moderate, and high levels of reported use, and learners' qualitative explanations of their strategy use. The quantitative component examines patterns in students' reported strategy use, while the qualitative component provides learners' explanations that contribute to a more contextualized understanding of these patterns, including how different strategic practices may be combined or used in response to particular reading demands. The two strands are integrated to provide a mixed-methods understanding of Grade 11 EFL students' reported reading strategy use. The framework does not assume that greater reported strategy use indicates higher reading ability or that questionnaire responses directly represent observed reading behavior; rather, it provides an analytical structure for examining students' reported strategic reading practices in the study context.

Figure 1 Conceptual Framework of Reading Strategy Use and Study Focus



Note. Researcher-developed figure based on Oxford's (1990) framework and related perspectives (Anderson, 2003; Flavell, 1979; Grabe & Stoller, 2011).

METHODOLOGY

Research Design

This study employed a cross-sectional convergent mixed-methods design to investigate Grade 11 students' use of cognitive, metacognitive, and compensation reading strategies. The design enabled the concurrent collection of quantitative and qualitative data at a single point in time, with the two strands analyzed separately and integrated during interpretation. This approach was appropriate because the quantitative data provided evidence on the patterns and levels of reported strategy use, while the qualitative data provided contextual insights into how students described their use of these strategies. Together, the two strands provided a more comprehensive understanding of students' reading strategy use than either approach alone (Cohen et al., 2018; Creswell & Plano Clark, 2018; Johnson & Onwuegbuzie, 2004).

Participants

The participants were Grade 11 English as a Foreign Language (EFL) students enrolled during the 2025/2026 academic year in three government secondary schools—

Fiche Secondary School, Abdisa Aga Secondary School, and Fiche No. 2 Secondary School—in Fiche Administrative Town, North Shewa Zone, Oromia Regional State, Ethiopia. The total population comprised 332 Grade 11 students. A sample of 100 students participated in the quantitative phase, and 12 students were purposively selected from this sample to participate in semi-structured interviews for the qualitative phase.

Sampling Procedures

The quantitative sample size was determined using the guideline suggested by Gay et al. (2012), which recommends sampling approximately 30% of the target population for descriptive educational research. Accordingly, 100 students, representing approximately 30% of the population of 332 Grade 11 students, were selected for the quantitative strand. Proportional sampling was first used to allocate the sample across the three schools according to their respective student populations, resulting in 47 students from Fiche Secondary School, 35 from Abdisa Aga Secondary School, and 18 from Fiche No. 2 Secondary School. Individual participants were then selected through systematic random sampling using class registers as the sampling frame.

For the qualitative strand, 12 students were purposively selected from the quantitative sample to participate in semi-structured interviews. Selection was based on students' willingness to participate and their ability to provide detailed accounts of their reading strategy use. This sampling procedure allowed the quantitative strand to capture students across the three schools while providing qualitative accounts that complemented the quantitative findings.

Classification of Reading Strategy Use Levels

Students' strategy-use levels were classified using composite mean scores from the five-point frequency scale. Scores were interpreted using three frequency-of-use levels: low (1.00–2.49), moderate (2.50–3.49), and high (3.50–5.00), following the frequency-use approach described by Oxford (1990). These criteria were applied consistently to the cognitive, metacognitive, and compensation strategy scores, and the frequencies and percentages of students in the low, moderate, and high reported-use levels were calculated for each strategy category.

Instruments

Reading Strategy Use Questionnaire

Students' reading strategy use was assessed using a 36-item questionnaire adapted from established language-learning and reading-strategy instruments, particularly Oxford's (1990) Strategy Inventory for Language Learning (SILL), Carrell's (1989) work on metacognitive awareness in second-language reading, and Baker and Boonkit's (2004) research on EFL reading strategies. Items were selectively modified in wording and phrasing and contextualized to reflect English reading activities relevant to Grade 11 EFL students. The final questionnaire comprised three categories (cognitive, metacognitive, and compensation strategies) with 12 items in each category.

Each item was rated on a five-point frequency scale ranging from 1 (never or almost never) to 5 (always or almost always). Higher scores indicated more frequent reported use of the strategy. This frequency-based format was used to assess how often students reported employing particular reading strategies, consistent with Oxford's (1990) approach to measuring strategy use. Composite mean scores were calculated for each strategy category and classified as low (1.00–2.49), moderate (2.50–3.49), or high (3.50–5.00), based on frequency-use categories derived from Oxford (1990, p. 291).

Content validity was assessed by English language teaching experts, the research advisor, and dissertation examiners, who evaluated the items for clarity, relevance, and alignment with the study objectives. Following minor revisions, the questionnaire was pilot-tested with students from a comparable population who were excluded from the main study. Cronbach's alpha indicated good internal consistency for the overall questionnaire

($\alpha = .851$) and acceptable reliability for the cognitive ($\alpha = .710$), metacognitive ($\alpha = .820$), and compensation ($\alpha = .740$) subscales.

Semi-Structured Interview

Qualitative data were collected through semi-structured interviews with 12 purposively selected students to provide contextual insights into their reported reading strategy use. The interview protocol explored students' approaches to reading English texts, strategies used before, during, and after reading, ways of addressing comprehension difficulties, and reasons for selecting particular strategies. Semi-structured interviews were used because they allow in-depth exploration of participants' experiences while maintaining consistency across interviews (Creswell & Poth, 2018). The interview guide was reviewed by English language teaching experts, the research advisor, and dissertation examiners to assess its clarity, relevance, and alignment with the study objectives. Following minor revisions, it was pilot-tested with students from a comparable population who were not included in the main study. With participants' consent, all interviews were audio-recorded and transcribed verbatim for qualitative analysis.

Data Collection Procedures

Data were collected over five consecutive days in March 2026 from the three participating government secondary schools. Before data collection, ethical approval was obtained from the Institutional Review Board (IRB) of Addis Ababa University, and permission was secured from the respective school administrations. Participants were informed about the purpose of the study, confidentiality, and the voluntary nature of participation, and written informed consent was obtained. The reading strategy use questionnaire was administered during regular class periods under standardized conditions, with approximately 40 minutes allocated for completion. Following questionnaire administration, semi-structured interviews were conducted with the 12 purposively selected students. The interviews were conducted in Afan Oromo, audio-recorded with participants' consent, transcribed verbatim, and translated into English for qualitative analysis.

Data Analysis Procedures

The study adopted a convergent mixed-methods design, with quantitative and qualitative data analyzed separately and integrated during interpretation (Creswell & Plano

Clark, 2018). Quantitative data were coded and analyzed using IBM SPSS Statistics version 26. The dataset was screened for missing responses and data-entry errors before analysis (Field, 2018). Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to examine students' reported use of cognitive, metacognitive, and compensation reading strategies. Composite mean scores were interpreted using three frequency-of-use levels: low (1.00–2.49), moderate (2.50–3.49), and high (3.50–5.00), following the frequency-use approach described by Oxford (1990, p. 291).

Qualitative interview data were analyzed through a systematic coding process involving open, axial, and selective coding. During open coding, relevant segments of the transcripts were identified and assigned initial codes reflecting students' descriptions of their reading strategy use. During axial coding, related codes were compared and grouped into broader categories based on their conceptual relationships. Selective coding was then used to identify and organize the central themes that captured the main patterns across participants' accounts. Finally, the quantitative and qualitative findings were integrated during interpretation, with the qualitative themes providing contextual insights into the patterns identified in the quantitative results (Creswell & Plano Clark, 2018).

RESULTS

Mean Scores of Cognitive, Metacognitive, and Compensation Reading Strategy Use

This section addresses the first research question by presenting the mean scores and standard deviations of Grade 11 students' reported use of cognitive, metacognitive, and compensation reading strategies. The findings provide an overall picture of students' reported use of each strategy category and facilitate comparison across the three types of reading strategies.

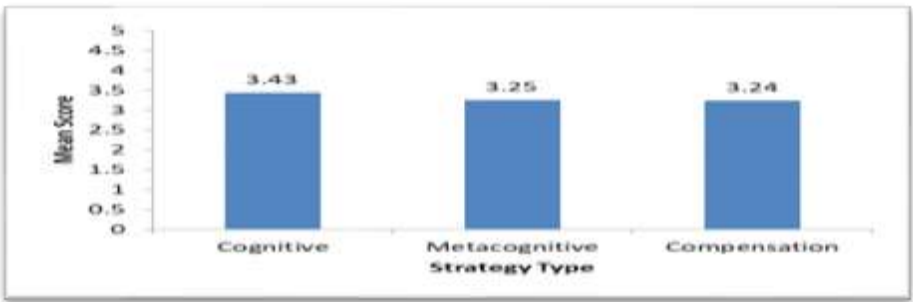
Table 1 Mean Scores of Reading Strategy Categories among Grade 11 Students

Strategy Type	Mean (M)	SD	Level
Cognitive	3.43	0.52	Moderate
Metacognitive	3.25	0.69	Moderate
Compensation	3.24	0.51	Moderate

Note. Level of use was determined based on the following mean ranges: 1.00–2.49 = Low, 2.50–3.49 = Moderate and 3.50–5.00 = High.

As shown in Table 1, students reported a moderate level of use across all three reading strategy categories. Cognitive strategies obtained the highest mean score ($M = 3.43$, $SD = 0.52$), followed by metacognitive strategies ($M = 3.25$, $SD = 0.69$) and compensation strategies ($M = 3.24$, $SD = 0.51$). Although cognitive strategies ranked slightly higher than the other two categories, the differences in mean scores were relatively small, suggesting that students reported using all three types of reading strategies at broadly comparable levels. The standard deviation values further provide insight into the variability of students' responses across the three categories. The relatively lower standard deviations for cognitive ($SD = 0.52$) and compensation strategies ($SD = 0.51$) indicate less variation in students' reported use of these strategies, whereas the higher standard deviation for metacognitive strategies ($SD = 0.69$) indicates greater variation in students' responses regarding their reported use of planning, monitoring, and evaluation strategies.

Figure 2 Mean Scores of Reading Strategy Categories



Note. Figure 2 presents the mean scores of cognitive, metacognitive, and compensation reading strategies among Grade 11 students.

Figure 2 illustrates the mean scores for the three strategy categories and reinforces the pattern observed in Table 1. Cognitive strategies recorded the highest mean score, whereas metacognitive and compensation strategies showed very similar mean scores. Overall, the relatively small differences among the three categories indicate a broadly balanced pattern of reported reading strategy use among the Grade 11 students.

Distribution of Students' Reading Strategy Use across Levels

The distribution of students' reading strategy use across low, moderate, and high levels provides a clearer picture of the extent to which different strategies were reported. Examining these distributions helps identify patterns of strategy use beyond the overall mean scores.

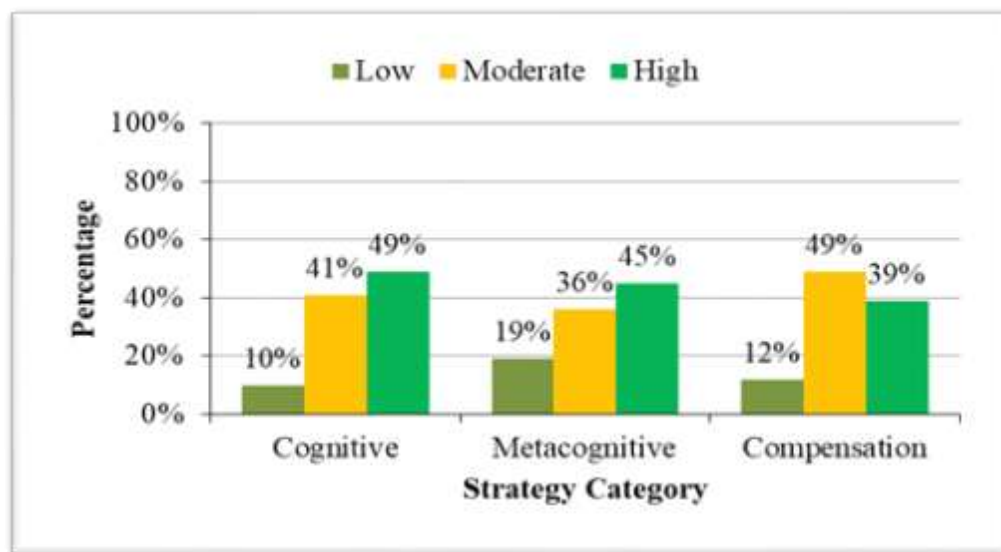
Table 2 Frequency and Distribution of Reading Strategy Use Levels

Strategy Type	Low (f / %)	Moderate (f / %)	High (f / %)	Total (N)
Cognitive	10 / 10%	41 / 41%	49 / 49%	100
Metacognitive	19 / 19%	36 / 36%	45 / 45%	100
Compensation	12 / 12%	49 / 49%	39 / 39%	100

Note. Percentages are reported separately for the low, moderate, and high categories and therefore sum to 100% within each strategy type.

The results in Table 2 generally follow the pattern observed in the mean-score analysis. Nearly half of the students (49%) were classified as high users of cognitive strategies, while 41% were classified as moderate users and 10% as low users. A similar distribution was found for metacognitive strategies, with 45% of students classified as high users, 36% as moderate users, and 19% as low users. Compensation strategies, however, showed somewhat different pattern, as nearly half of the students (49%) were classified as moderate users, compared with 39% who were classified as high users and 12% as low users. Taken together, although the mean scores indicated a moderate level of use across all three strategy categories, the distribution of students suggests that cognitive and metacognitive strategies had relatively larger proportions of high users, whereas compensation strategy use was more concentrated at the moderate level.

Figure 3 Distribution of Reading Strategy Use Levels among Grade 11 Students



Note. Figure 3 provides a graphical summary of the distribution of students' reading strategy use levels presented in Table 2.

The figure shows that most students were classified as moderate or high users across the three strategy categories, whereas relatively few were classified as low users. These findings, alongside the mean score results, indicate that Grade 11 students reported moderate overall use of cognitive, metacognitive, and compensation reading strategies, although the distribution varied across the strategy categories: cognitive strategies had the highest mean score and the largest proportion of high users, whereas compensation strategies had the largest proportion of moderate users.

Students' Explanations of Their Reading Strategy Use

The interview findings indicated that students employed a range of strategies to construct meaning from English texts, monitor their understanding, and address comprehension difficulties. Although these strategies broadly corresponded to the cognitive, metacognitive, and compensation categories represented in the quantitative questionnaire, participants' accounts revealed that these processes often overlapped and were combined in response to specific reading demands. Thus, the interview data not only illustrated the predefined strategy categories but also revealed how students integrated different processes while reading.

Participants commonly described strategies for understanding, identifying, and organizing information in texts. These strategies included identifying main ideas, rereading difficult sections, using contextual clues to infer the meanings of unfamiliar words, and summarizing important information. For example, one participant explained, “I usually look for topic sentences and repeated ideas in the passage,” while another stated, “I usually slow down and reread the part that I do not understand.” Students also reported using contextual information to infer unfamiliar vocabulary before seeking external assistance, as reflected in the statement, “I first try to guess their meaning from the context.” These accounts indicate that students actively constructed meaning from textual information rather than relying exclusively on word-by-word translation.

Students also described planning and monitoring their reading, particularly when working with difficult texts. Some reported previewing titles and headings before reading, as one student explained, “Before reading, I usually look at the title and sometimes the headings to get an idea of the topic.” Others described monitoring their understanding during reading, for example, “I monitor my understanding by checking whether I can explain the paragraph in my own words.” Students also reported setting goals according to their reading purposes, such as identifying important information and remembering key points. Importantly, the accounts showed that monitoring was often intertwined with subsequent strategy selection. Recognizing that a section was not understood could prompt students to slow down, reread, or adopt another strategy. Thus, monitoring did not necessarily operate as a distinct process separate from direct engagement with the text; rather, it could initiate or guide subsequent strategic activity. This overlap suggests that the predefined categories, while useful for organizing broad patterns of strategy use, did not always represent clearly separate processes in students’ reported reading experiences.

When students encountered unfamiliar vocabulary or other comprehension difficulties, they described combining several strategies rather than relying on a single approach. One participant stated, “I usually start with context clues because they are faster and help me continue reading,” while another explained, “If that does not work, I use a dictionary or ask classmates.” A further participant noted, “Asking someone is most helpful for me because I usually cannot understand the meaning by myself.” These accounts suggest a flexible and sequential approach to resolving comprehension problems. Students often attempted to infer meaning independently before turning to external resources when their initial efforts were unsuccessful. The sequence described by the

participants further suggests that strategy use involved adjusting their approach when an initial strategy did not adequately resolve a comprehension difficulty. In this way, the use of external assistance was not necessarily a separate response but could form part of a broader sequence involving initial comprehension attempts, evaluation of difficulty, and subsequent strategy adjustment.

Overall, the interview findings suggest that students' reading strategy use was interconnected, flexible, and responsive to specific reading demands. Although the cognitive, metacognitive, and compensation categories provided a useful framework for organizing the quantitative measures, participants' accounts indicated that these processes were not always clearly separable in their reported reading experiences. For example, recognizing a comprehension problem could prompt rereading, while difficulty understanding an unfamiliar word could lead to contextual inference followed by dictionary use or assistance from others. The qualitative findings consequently extend the quantitative categorization by showing that, in participants' accounts, strategic reading was not always described as the use of discrete strategy types but as an interconnected process of constructing meaning, monitoring understanding and responding to comprehension demands.

DISCUSSION

Discussion of Mean Scores of Reading Strategy Use

The first research question examined Grade 11 EFL students' reported use of cognitive, metacognitive, and compensation reading strategies. The findings showed moderate levels across all three categories, with cognitive strategies receiving the highest mean score ($M = 3.43$, $SD = 0.52$), followed by metacognitive ($M = 3.25$, $SD = 0.69$) and compensation strategies ($M = 3.24$, $SD = 0.51$). The relatively small differences indicate broadly comparable levels of reported strategy use rather than a strong dominance of one category.

The higher cognitive mean indicates more frequent reported use of strategies that directly supported meaning construction, such as identifying key information, rereading, summarizing, and inferring meaning from context. This finding is consistent with the view of reading as an active process of constructing meaning through interaction with textual information (Anderson, 2003; Grabe & Stoller, 2011). However, empirical evidence indicates that the prominence of particular strategy categories varies across EFL contexts.

For example, Sunggingwati and Ungau (2023) identified metacognitive strategies as the most frequently reported among Indonesian Grade 12 EFL students, whereas Aman and Lemu (2023) found problem-solving strategies to be the most prominent among Ethiopian university students. The predominance of cognitive strategies in the present study therefore should not be interpreted as evidence that cognitive strategies are universally more frequently used. Differences in educational level, reading context, strategy frameworks, and measurement instruments may contribute to variation across studies.

Metacognitive strategies had a slightly lower mean than cognitive strategies, although their level remained moderate. The comparatively larger standard deviation ($SD = 0.69$) indicates greater variation among students in reported use of planning, monitoring, and evaluation strategies. A similar pattern was reported among Saudi EFL students, who showed moderate metacognitive strategy awareness, although awareness differed across individual strategy types (Al-khresheh & Al Basheer Ben Ali, 2023). Madebo and Gutema (2024) similarly found that explicit cognitive strategy instruction improved Ethiopian secondary-school students' reading performance, but did not significantly increase their metacognitive strategy awareness. These findings suggest that metacognitive awareness and other aspects of reading performance or strategy use may not develop or appear in self-reports in parallel. The relatively lower metacognitive mean in the present study should therefore be interpreted cautiously. It may reflect less frequent reported use, but it could also be influenced by the less observable nature of metacognitive processes, students' problem of recognizing or recalling such processes, differences in item wording, or limitations inherent in self-report measurement.

Compensation strategies also showed moderate reported use ($M = 3.24$, $SD = 0.51$), similar to metacognitive strategies. Students reported using these strategies to address unfamiliar vocabulary and comprehension difficulties. Overall, the quantitative findings suggest a relatively balanced pattern of strategy use, with cognitive strategies somewhat more prominent than metacognitive and compensation strategies.

Distribution of Reading Strategy Use across low, moderate, and high levels

The second research question examined the distribution of students' reported strategy use across low, moderate, and high levels. Cognitive strategies had the largest proportion of students at the high level (49%), whereas compensation strategies had the largest proportion at the moderate level (49%). Metacognitive strategies had the largest

low-level group (19%), but 45% of students were also classified at the high level. Thus, the distribution indicates greater variation in metacognitive strategy use rather than generally low use.

The relatively high proportion of students reporting high cognitive strategy use is consistent with the higher cognitive mean. These strategies involve relatively observable actions, such as rereading, identifying key information, and summarizing, whereas planning and monitoring involve less visible processes (Anderson, 2003; Afflerbach et al., 2020). Therefore, differences in reported frequency may partly reflect how readily students recognize and report particular strategies.

Compensation strategies were also commonly reported, with 39% of students at the high level and only 12% at the low level. This indicates that many students reported using strategies to address unfamiliar vocabulary and comprehension difficulties. However, these findings are based on students' self-reports rather than direct observation of their reading behavior and should be interpreted cautiously.

Students' Explanations of Reading Strategy Use

The third research question explored how students described their reading strategy use. The interviews indicated that students used a range of practices, including identifying main ideas, summarizing, rereading difficult sections, monitoring understanding, inferring meaning from context, and using dictionaries or seeking assistance. These accounts support the quantitative finding that cognitive strategies were relatively prominent, but they also showed that the three strategy categories were not always separate. Students often combined strategies during reading. For example, students described monitoring their understanding and responding to comprehension difficulties by slowing down or rereading a passage. Similarly, they reported using context clues to infer unfamiliar words before turning to a dictionary or seeking help. These sequences suggest that metacognitive monitoring led to cognitive actions, while cognitive and compensation strategies were combined to address comprehension difficulties. Thus, the qualitative findings extend the quantitative results by showing how strategies operated together in response to different reading demands.

This pattern is consistent with Mekuria et al. (2024), whose think-aloud data showed that students used cognitive and metacognitive strategies alongside other strategies. Their qualitative findings also identified strategies that were not captured by the

questionnaire, suggesting that self-report measures may not fully reflect how students use strategies during reading. Similarly, the present interviews showed that students combined different strategies rather than using the three categories separately.

Integrated Discussion of the Findings

The quantitative findings indicated a moderate level of reported reading strategy use, with cognitive strategies receiving the highest mean score. The qualitative findings, in turn, complemented this pattern by showing that students drew on a range of strategies and often combined them in response to specific reading demands. For example, students described monitoring their comprehension and then rereading difficult sections. Similarly, attempts to infer meaning from context were sometimes followed by dictionary use or seeking assistance. Taken together, these findings indicate that cognitive, metacognitive, and compensation strategies provide a useful framework for describing broad patterns of strategy use; however, they do not necessarily operate as distinct processes during actual reading.

The findings also contribute to the broader empirical debate concerning which reading strategies are most prominent across EFL contexts. The present study identified cognitive strategies as having the highest mean, whereas Sunggingwati and Ungau (2023) reported metacognitive strategies as the most frequently used and Aman and Lemu (2023) identified problem-solving strategies as the most prominent. Such differences suggest that no single strategy category consistently emerges as dominant across EFL learners. The differences across studies indicate that the prominence of particular strategy categories varies across EFL contexts. Such variation may be related to differences in learners, educational settings, and measurement approaches (Cohen & Wang, 2024). Accordingly, the present findings are best interpreted as context-specific evidence of reported strategy-use patterns rather than as evidence of a universal hierarchy of strategy use.

The findings should also be considered alongside evidence that strategy use can be related to reading outcomes. Wendaferew and Damtew (2023), for example, found that explicit reading-strategy instruction significantly improved the reading comprehension performance of Ethiopian Grade 11 EFL students. Similarly, Mekuria et al. (2024) reported improvements in reading strategy use and critical reading ability following explicit strategy training among Ethiopian university students. These intervention findings support the importance of strategic reading but do not establish that the higher reported

cognitive strategy use in the present study caused better reading performance. Because the present study was cross-sectional and did not measure change following instruction, its findings should remain descriptive rather than causal.

The reliance on self-reported strategy use also warrants caution. Questionnaire responses provide evidence of students' perceptions and recollections of their strategic behavior, but they cannot establish precisely what students did during actual reading. The discrepancy between questionnaire and think-aloud evidence reported by Mekuria et al. (2024) further illustrates this limitation. The present interviews partly address this issue by providing richer accounts of students' reading processes, but they likewise remain retrospective self-reports. Future research could therefore combine questionnaires with direct observations, think-aloud protocols, or other process-sensitive measures to examine more closely how reported strategy use corresponds to students' actual reading behavior.

Overall, the findings portray reading strategy use as a moderately frequent, varied, and interconnected set of reported practices rather than as a fixed hierarchy of separate strategy categories. The findings show that cognitive, metacognitive, and compensation strategies are useful for describing students' strategy use, but students do not always use them separately. Instead, they often combine different strategies when dealing with reading difficulties.

Implications

The findings have implications for EFL reading instruction, teacher development, and curriculum design. Since students reported moderate use of all three strategy categories, teachers may benefit from giving explicit attention to a range of reading strategies. Classroom instruction can provide opportunities for students to identify key information, summarize, infer meaning from context, monitor their understanding, reread difficult sections, and seek assistance. These strategies need not be taught separately; teachers can also show students how to combine different strategies when responding to particular reading demands.

Curriculum materials and classroom tasks can support this approach by giving students opportunities to practice and reflect on their strategy use. Teacher professional development can further support the use of approaches such as guided reading, self-questioning, and reflection to help students become more aware of their reading processes. Future research can build on these findings by using larger and more diverse samples and

longitudinal, experimental, or process-sensitive approaches to examine how strategy use develops and operates during reading.

Limitations

This study had several limitations that should be considered when interpreting the findings. First, the study was conducted in three government secondary schools in Fiche Administrative Town, which limits the extent to which the findings can be generalized to other school settings in the country. Second, the cross-sectional mixed-methods design captured students' reported strategy use at one point in time and did not allow us to examine changes over time or causal relationships. Third, the questionnaire measured students' self-reported frequency of strategy use. Although the interviews provided additional contextual information, they were also based on students' retrospective accounts and could not establish how frequently particular strategies were used. Finally, this study focused on cognitive, metacognitive, and compensation strategies and did not examine other factors that may be associated with strategy use, such as motivation, vocabulary knowledge, self-efficacy, and language proficiency.

CONCLUSION

This study examined Grade 11 EFL students' reported use of cognitive, metacognitive, and compensation reading strategies in three government secondary schools in Fiche Administrative Town, Oromia Regional State, Ethiopia. Using a convergent mixed-methods design, the study examined the mean scores and level distributions of the three strategy categories and explored students' accounts of how they used strategies during reading.

The quantitative findings showed moderate reported use across all three strategy categories. Cognitive strategies had the highest mean score, followed by metacognitive and compensation strategies. Cognitive strategies also had the largest proportion of students at the high-use level (49%). Metacognitive strategies showed greater variability in reported use, with 19% of students at the low level and 45% at the high level. Compensation strategies also showed moderate reported use, with 39% of students at the high level and 49% at the moderate level. The qualitative findings showed that students described using a range of strategies, including identifying key information, summarizing, rereading, monitoring comprehension, inferring meaning from context, and seeking assistance.

Importantly, students often combined these strategies when responding to particular reading demands.

The findings contribute to EFL reading research by providing evidence from an under-researched secondary-school context and by showing that strategy categories should not necessarily be viewed as separate processes. Cognitive, metacognitive, and compensation strategies were useful for describing broad patterns of reported strategy use, but students' accounts showed that they often combined different strategies during reading. The findings therefore suggest that reading instruction can move beyond teaching strategies in isolation and provide opportunities for students to understand how and when different strategies can be combined to address particular reading demands. Because the study relied primarily on self-reported strategy use and retrospective interview accounts, these conclusions should be interpreted as evidence of students' reported strategy-use patterns rather than direct evidence of their reading behavior.

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