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Extent of metacognitive reading strategy use and its relationship to reading comprehension performance of learners with special needs (LSENs)

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ABSTRACT

This study determined the extent of metacognitive reading strategy use and its relationship to reading comprehension performance among Learners with Special Educational Needs (LSENs) during School Year 2025–2026. Employing a quantitative, descriptive-correlational research design, the study was conducted in four public elementary schools in Cabadbaran City Division, namely Bayabas Elementary School, La Union Elementary School, North Cabadbaran Central Elementary School, and Cabadbaran South Central Elementary School. The respondents comprised 110 LSENs and 57 Special Education and regular teachers, selected through [sampling technique to be verified]. Data were gathered using a teacher-rated metacognitive reading strategy questionnaire and a reading comprehension assessment. Frequency, percentage, mean, and chi-square test were employed to analyze the data. Findings revealed that metacognitive reading strategies were often utilized, with evaluating strategies obtaining the highest mean (M = 3.02), followed by monitoring (M = 2.91) and planning (M = 2.75), yielding an overall mean of 2.89. Regarding reading comprehension, 80.91% of learners were classified at the frustration level, 11.82% at the instructional level, and 7.27% at the independent level. The chi-square test revealed no significant association between the variables ($\chi^2 = 7.095$, $p = .131$). The study concluded that frequent metacognitive strategy use did not correspond to a statistically significant categorical association with reading comprehension performance. Consequently, the researcher recommended implementing an Instructional Intervention Plan emphasizing explicit metacognitive instruction, differentiated reading activities, individualized assessment, and continuous progress monitoring to strengthen learners' reading comprehension skills.

Keywords: Special Education, metacognitive reading strategy use, reading comprehension performance, descriptive-correlational research, Cabadbaran City, Philippines.

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INTRODUCTION

Reading comprehension remains one of the most critical predictors of academic success across subject areas. It is not merely the ability to decode text but the capacity to construct meaning, integrate prior knowledge, monitor understanding, and evaluate information. For

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Learners with Special Educational Needs (LSENs), reading comprehension presents persistent challenges due to difficulties in processing speed, working memory, attention regulation, and language development. These challenges often limit access to the general curriculum and hinder full participation in inclusive educational settings.

Recent international large-scale assessments continue to highlight global concerns in reading proficiency. The Programme for International Student Assessment (PISA) 2018 and 2022 results reveal that many learners struggle with higher-order reading skills, particularly tasks requiring interpretation, reflection, and evaluation (Organisation for Economic Co-operation and Development [OECD], 2020, 2023). These findings underscore the importance of strengthening strategic and self-regulated reading processes rather than focusing solely on decoding and literal comprehension.

Metacognitive reading strategies refer to learners' awareness and regulation of their own thinking before, during, and after reading. These include planning (e.g., setting a reading goal), monitoring (e.g., checking understanding while reading), and evaluating (e.g., reflecting on whether comprehension goals were achieved). Research between 2020 and 2025 consistently demonstrates that metacognitive awareness and strategy use significantly predict reading achievement across diverse contexts (OECD, 2020, 2023). Learners who actively regulate their reading processes tend to perform better in comprehension tasks because they can detect misunderstandings and apply corrective strategies.

In the Philippine context, reading proficiency has remained a pressing concern. The country's performance in international assessments has consistently shown that Filipino learners face substantial challenges in reading comprehension, particularly in inferential and analytical tasks (OECD, 2020, 2023). These findings indicate a need to examine underlying cognitive and metacognitive factors influencing comprehension performance. Furthermore, the World Bank (2022) emphasizes that learning poverty in the Philippines remains high, reinforcing the urgency of evidence-based interventions targeting comprehension skills.

At the national policy level, Republic Act No. 11650, or the Inclusive Education Act of 2022, mandates the strengthening of support systems for learners with disabilities and other special educational needs (Republic Act No. 11650, 2022). The law underscores the responsibility of educational institutions to provide appropriate instructional strategies and interventions that ensure equitable learning opportunities. Investigating metacognitive reading strategy use among LSENs directly aligns with this mandate, as it provides empirical evidence that can guide inclusive instructional design.

Locally, divisions implementing inclusive education programs continue to report variability in reading outcomes among LSENs. While schools often implement remedial reading programs, limited localized research examines how LSENs actually use metacognitive strategies and whether such use significantly correlates with measurable comprehension performance. Without such data, intervention programs risk being generic rather than targeted.

Despite strong international evidence linking metacognition to reading achievement, several gaps remain. First, many large-scale studies focus on general education learners rather than LSEN populations. Second, while international data confirm the predictive role of metacognitive strategies, contextual validation at the school or division level remains limited. Third, few studies specifically measure the extent of metacognitive strategy use among LSENs and directly correlate it with standardized comprehension performance within Philippine inclusive settings.

Recent literature reveals several important gaps that justify the present investigation. First, a clear population gap exists, as large-scale international studies such as PISA 2018 and PISA 2022 predominantly examine general student populations rather than learners with special educational needs (OECD, 2020, 2023). While these reports confirm the importance of metacognitive strategies in reading achievement, they do not sufficiently disaggregate findings

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for LSEN populations, whose cognitive processing profiles and instructional needs may differ significantly from those of typically developing learners. Second, a contextual gap remains evident. Much of the existing evidence originates from international datasets and cross-national analyses, which may not directly reflect the realities of Philippine inclusive education settings. Given differences in language context, curriculum design, teacher preparation, and resource availability, localized empirical validation is necessary before applying international conclusions to Philippine LSEN classrooms.

Third, a strategy-specific gap is apparent in the literature. Although research broadly supports the role of metacognitive awareness in reading performance, fewer studies explicitly determine which metacognitive domains planning, monitoring, or evaluating most strongly predict comprehension outcomes among LSENs. Without identifying the most influential strategy domain, instructional interventions may lack precision and effectiveness. Finally, an intervention gap persists at the school level. Many reading programs are implemented as general remedial measures without prior empirical profiling of LSENs' metacognitive strategy patterns. This limits the ability of educators to design targeted, data-driven interventions aligned with the actual cognitive-regulatory needs of learners in inclusive settings.

In response to these gaps, this study aims to determine the extent of metacognitive reading strategy use and its relationship to reading comprehension performance among Learners with Special Educational Needs (LSENs). Specifically, it seeks to measure the extent to which LSENs employ planning, monitoring, and evaluating strategies during reading tasks. It also aims to determine their level of reading comprehension performance using an appropriate assessment measure. Furthermore, the study intends to examine whether a statistically significant relationship exists between metacognitive reading strategy use and reading comprehension performance. It will likewise identify which specific domain of metacognitive strategy use significantly predicts comprehension outcomes. Finally, based on the findings, the study will propose evidence-based recommendations to strengthen SPED reading instruction within inclusive education settings.

This study therefore seeks to determine the extent of metacognitive reading strategy use among LSENs and examine its relationship with their reading comprehension performance. By generating localized, LSEN-specific data, the study aims to contribute to evidence-based instructional planning, support inclusive education implementation, and provide empirical grounding for SPED reading interventions.

Statement of the problem

This study aimed to determine the extent of metacognitive reading strategy use and its relationship with reading comprehension performance among Learners with Special Educational Needs (LSENs) during School Year 2025–2026 in selected inclusive education programs in Cabadbaran City as a basis for developing a proposed instructional intervention plan.

Specifically, the study sought to answer the following questions:

1. What was the extent of metacognitive reading strategy use among LSENs in terms of planning strategies, monitoring strategies, and evaluating strategies?
2. What was the level of reading comprehension performance among LSENs?
3. Was there a significant relationship between metacognitive reading strategy use and reading comprehension performance among LSENs?

4. Which domain of metacognitive reading strategy use, namely planning, monitoring, or evaluating strategies, significantly predicted reading comprehension performance among LSENs?
5. Based on the findings of the study, what instructional intervention plan could be proposed to enhance reading comprehension among LSENs?

METHODOLOGY

Research design

The study employed a quantitative, non-experimental descriptive-correlational approach to describe metacognitive reading strategy use and reading comprehension classifications. The descriptive component summarized teacher-rated planning, monitoring, and evaluating behaviors and learner comprehension levels. As explained by Creswell and Creswell (2018), correlational methods examine associations without manipulating the measured variables; such associations cannot by themselves establish causality.

The inferential analysis reported in Chapter 3 used a chi-square test of association on categorized variables (Table 7). The originally described Pearson correlation and multiple linear regression were not accompanied by supporting results. Any correlation or regression claim must await verification of learner-level paired data, the proper unit of analysis, and the statistician's signed report. The exact sampling procedure, participant linkage, and assumptions for a valid predictive analysis also require confirmation.

Respondents and locale of the study

The primary participants of this study were drawn from the population of educators directly engaged in inclusive education within the division, particularly those assigned to Cabadbaran South Central Elementary School. This includes all Special Education (SPED) teachers and receiving teachers currently handling learners with special needs in inclusive classroom settings. SPED teachers provide specialized instructional support and individualized interventions, while receiving teacher's general education teachers who accommodate learners with special needs in their regular classrooms play a critical role in the daily implementation of inclusive practices. Their combined roles position them at the forefront of translating inclusive education policies into actual classroom strategies.

As a school that hosts a regional resource center, Cabadbaran South Central Elementary School serves as a hub for inclusive education services within the area. The presence of such a center implied structured support systems, access to specialized materials, collaborative case management, and coordinated interventions for learners with diverse needs. Teachers in this setting are therefore uniquely positioned to provide informed insights into how inclusive education functions in practice particularly in relation to behavioral support strategies, differentiated instruction, and collaborative planning. Their experiences reflect both the strengths and challenges of implementing inclusive education in a public-school environment with structured resource support.

The perspectives of these educators are central to the study because they are directly responsible for designing, implementing, and monitoring positive reinforcement strategies and other behavioral interventions for learners with special needs. Through their observations and professional judgments, the study gains access to reliable data regarding the extent of strategy implementation, consistency of practice, and observable behavioral outcomes among learners. By focusing on teachers who actively engage in inclusive instruction within a regional resource

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center setting, the research ensures contextual relevance and captures the operational realities of inclusive education at the classroom level.

Research instrument

The study describes an adapted metacognitive reading strategy questionnaire based on the Metacognitive Awareness of Reading Strategies Inventory (MARSI; Mokhtari & Reichard, 2002) and its revised version (MARSI-R; Mokhtari et al., 2018). The study-specific items operationalized planning, monitoring, and evaluating strategies; these should not be described as identical to the original MARSI-R subscales without a documented mapping and validation record.

Teacher-rated indicators were presented in Tables 2–4. The manuscript also describes a four-point response scale from Never (1) to Always (4). However, the appended instrument and the final item allocations must be checked against the reported 5 planning, 6 monitoring, and 6 evaluating indicators in Chapter 3. Evidence of content validation, participant appropriateness, and administration accommodations should be attached and discussed.

Reading comprehension was reported using three classifications: independent, instructional, and frustration. Although the manuscript names the Philippine Informal Reading Inventory (Phil-IRI) as a possible source, the exact test form, administration, cutoffs, and accessibility accommodations are not documented in the uploaded dissertation and must be verified before attributing the observed classifications to a specific instrument.

The study therefore drew on teacher-rated observations of strategy use and reading-comprehension classifications. The final unit of analysis and whether teacher ratings can be linked to individual learners need explicit documentation before any learner-level association or prediction is interpreted.

Data analyses procedure

The researcher gathered the data for this study by following orderly procedures divided into three phases: pre-gathering, during gathering, and post-gathering.

Prior to the conduct of the study, the researcher applied for permission to conduct the study through the Schools Division Superintendent (SDS) of the selected division office. The request included the approved research proposal, ethical clearance, and letter of endorsement. Upon approval from the Division Office, the researcher coordinated with the principals of the selected schools to schedule the administration of the research instruments. Informed consent forms were prepared and distributed to the parents or guardians of the LSEN participants to ensure voluntary participation and confidentiality of responses. Assent forms appropriate to the learners' level of understanding were also secured when necessary.

During the data collection period, the researcher administered the adapted Metacognitive Reading Strategy Questionnaire to the identified LSEN participants. Clear and simplified instructions were provided to ensure that learners understand how to respond to the 4-point Likert scale instrument. If necessary, the researcher provided guided or assisted administration to accommodate the learners' needs without influencing their responses. Following the administration of the questionnaire, the reading comprehension assessment (e.g., Phil-IRI or validated comprehension test) was conducted to determine the level of reading comprehension performance of the participants. Adequate time was allotted for learners to complete the assessment under structured and supportive conditions. After completion, the

researcher collected all accomplished questionnaires and assessment papers to ensure completeness and minimize data loss.

Upon retrieval of the completed instruments, the researcher organized, code, and validate the responses. The data were carefully checked for completeness, consistency, and accuracy. Responses from the metacognitive reading strategy questionnaire were encoded and categorized according to the domains of planning, monitoring, and evaluating strategies. Reading comprehension scores likewise be recorded and organized.

The validated data were then encoded into a statistical software program for analysis. Descriptive statistics such as mean and standard deviation were computed to determine the extent of metacognitive reading strategy use and the level of reading comprehension performance. Pearson Product–Moment Correlation was used to examine the significant relationship between metacognitive reading strategy use and reading comprehension performance. Furthermore, Multiple Linear Regression Analysis was conducted to determine which domain of metacognitive reading strategy use significantly predicts reading comprehension performance. The findings were interpreted, presented in tabular form, and analyzed in accordance with the research objectives. Based on the results, a proposed intervention plan were developed to enhance reading comprehension among LSENs through structured metacognitive strategy instruction.

RESULTS AND DISCUSSION

This section presents and discusses the data gathered from 110 Learners with Special Educational Needs (LSENs) and the 57 Special Education and regular teachers who rated their strategy use, during School Year 2025-2026 in four public elementary schools of Cabadbaran City Division: Bayabas Elementary School, La Union Elementary School, North Cabadbaran Central Elementary School, and Cabadbaran South Central Elementary School. The study used a quantitative, non-experimental, descriptive-correlational design, and respondents were selected through [sampling technique to be verified]. Data were gathered with a teacher-rated metacognitive reading strategy questionnaire adapted from the Metacognitive Awareness of Reading Strategies Inventory (MARSI) and its revised version (MARSI-R), using a four-point scale from Never (1) to Always (4), together with a reading comprehension assessment that classified learners as independent, instructional, or frustration level. Frequency, percentage, mean, standard deviation, and the chi-square test were used to analyze the data. The discussion is grounded in the data gathered, and the results are interpreted in direct relation to the objectives of the study and to existing literature.

Extent of metacognitive reading strategy use

In terms of planning strategies, which concern how learners prepare before reading, the aggregate mean was 2.75, verbally described as Often, with an aggregate standard deviation of 1.01. The LSENs therefore regularly employed planning strategies before reading. Because the result did not reach the “Always” category, these strategies may not yet have been applied consistently or independently in every reading activity. Identifying the purpose of reading before beginning obtained the highest weighted mean of 3.05 with a standard deviation of 0.80, described as Often. This suggests that the LSENs were generally able to determine why they were reading a text, such as to locate information, understand a story, answer questions, or learn a new concept. The relatively lower standard deviation also indicates that the teachers’ observations were more consistent for this strategy. Predicting the content of the text, examining pictures or illustrations, and activating prior knowledge obtained identical weighted means of 2.73, all described as Often. The standard deviations for the use of visual materials

and prior knowledge were both 1.14, indicating greater variation in responses. Some LSENs may have regularly used these strategies, while others required more direct teacher assistance and prompting. Examining the title or headings before reading received the lowest weighted mean of 2.54, although it was still described as Often. Since this value is only slightly above the lower limit of the "Often" category, previewing textual features appears to be the least established planning strategy. Some learners may begin reading without using titles and headings to establish the topic, organize expectations, or anticipate the structure of the text. The aggregate standard deviation of 1.01 further indicates noticeable differences in how the LSENs applied planning strategies, so their use was not uniform across learners. This variation may reflect differences in reading ability, type of disability or educational need, attention, language competence, previous reading experiences, and the instructional support provided by teachers.

These findings imply that the LSENs possessed an emerging capacity to prepare cognitively before reading. Their ability to identify a reading purpose was relatively more developed, whereas other strategies, particularly examining titles and headings, still required systematic reinforcement. This implication is supported by Juhkam et al. (2023), who examined 301 Grade 3 learners, including 77 learners with learning difficulties. They found that reciprocal teaching had a positive effect on reading comprehension, with a stronger effect among learners with learning difficulties. Reciprocal teaching systematically develops strategies such as predicting, questioning, clarifying, and summarizing, and improvement in metacognitive knowledge contributed to reading comprehension among learners who received the intervention. LSENs thus appear to benefit when teachers repeatedly model when, why, and how a strategy should be used rather than expecting independent development. The results also support the need for greater teacher preparation. Albalhareth and Alasmari (2023) found that teachers of deaf and hard-of-hearing elementary learners used only a limited number of planning, monitoring, and evaluating strategies, and that teacher qualifications and training in reading instruction significantly influenced implementation. Professional development for SPED and receiving teachers should therefore include practical training on think-aloud demonstrations, pre-reading questioning, prediction exercises, visual organizers, and strategy prompts adapted to LSENs.

The frequent but inconsistent activation of prior knowledge also has instructional implications. Hattan, Alexander, and Lupo's systematic review identified 54 studies and 30 different techniques for activating prior knowledge. Pre-reading activation was the most commonly used approach, but its effectiveness depended on the amount, accuracy, and relevance of learners' existing knowledge. Teachers should therefore guide LSENs with concrete pictures, familiar experiences, vocabulary prompts, concept maps, and corrective explanations, so that inaccurate prior knowledge does not interfere with comprehension. The use of pictures, charts, and illustrations should likewise be strengthened through careful selection. Lee, Quinn, and Jiang's 2025 meta-analysis found that pictorial and graphic representations produced moderate-to-strong positive effects on the reading comprehension of K-12 learners with autism spectrum disorder, with an overall Tau-U value of 0.85, although the effectiveness of visual supports varied with their format and the cognitive profiles of learners. Visuals should therefore represent important ideas in the text directly and should not be overly detailed, distracting, or unrelated to the reading purpose. Moreover, Khellab, Demirel, and Mohammadzadeh (2022) found that explicit instruction in metacognitive reading strategies significantly improved learners' metacognitive awareness and reading comprehension. Their participants were higher-education students rather than LSENs, but the study provides broader support for structured and direct strategy instruction, which for LSENs may involve teacher modeling, guided practice, visual reminders, immediate feedback, repeated application, and

gradual release of responsibility. Teachers may introduce a consistent pre-reading routine built around five prompts. Learners look at what the title, headings, and pictures show, think about what they already know, predict what the text might discuss or explain, state why they are reading, and plan which strategy to use if the text becomes difficult. The routine may be presented through picture-supported checklists, graphic organizers, color-coded prompts, teacher think-alouds, or individualized reading cards, and repeated use can help LSENs internalize the planning process. The LSENs thus demonstrated a functional but still developing level of metacognitive planning, and many may still depend on teacher prompts, visual cues, and structured activities. Particular attention should be given to previewing titles and headings, forming relevant predictions, and accurately connecting prior knowledge with the text. Because these results are descriptive, they cannot by themselves establish that planning strategies caused improvements in reading comprehension.

In terms of monitoring strategies, which concern how learners check their understanding while reading, identify difficulties, reread unclear parts, and adjust their approach, the aggregate mean was 2.91, described as Often, with an aggregate standard deviation of 0.90. The learners regularly applied actions intended to maintain, check, and improve their understanding, although the result remained below the “Always” range, so these behaviors were not yet consistently demonstrated across all reading situations. Adjusting reading speed when a text became difficult obtained the highest weighted mean of 3.26, described as Always, with a standard deviation of 0.97. The learners generally recognized increases in text difficulty and responded by changing their pace, perhaps slowing down for complicated sentences, unfamiliar words, or dense information. However, the mean was only slightly above the minimum value of 3.25 for the “Always” classification, and the standard deviation reflects differences in how consistently individual LSENs modified their reading speed. Pacing should therefore not be interpreted as fully mastered by every learner. Asking questions while reading obtained a weighted mean of 2.95, followed closely by remaining focused while reading challenging texts at 2.94, both described as Often. Many LSENs thus actively attempted to clarify ideas and maintain attention with difficult material, although these behaviors may still depend on teacher prompts, structured questioning, or reminders to return attention to the text. Using context clues to determine the meaning of unfamiliar words received a weighted mean of 2.80, while rereading unclear portions obtained 2.78, both described as Often. The learners commonly searched nearby words and sentences for meaning and returned to difficult sections when comprehension was interrupted. These repair actions allow readers to address confusion without immediately depending on an adult or external reference, although they were not automatically employed in every instance of difficulty. Checking understanding while reading received the lowest weighted mean of 2.72, although it was still described as Often. The learners were comparatively less consistent in consciously determining whether the text made sense as they proceeded. This result is notable because detecting a lack of understanding is necessary before a learner can decide to slow down, reread, ask a question, or examine contextual information. A learner may perform these actions when instructed without independently recognizing where comprehension has broken down. The aggregate standard deviation of 0.90 indicates some variation across learners, who may have needed repeated cues, additional processing time, simplified passages, or individualized assistance. This variation may be associated with language proficiency, decoding ability, working memory, attention control, type of educational need, and familiarity with the reading material. Overall, the LSENs did not merely proceed through the material without adjustment. They commonly altered their pace, returned to unclear passages, raised questions, examined surrounding information, and attempted to sustain attention. Their lower score for checking understanding suggests a possible gap between performing a corrective action and independently identifying why that action is necessary.

This interpretation is supported by Florit, De Carli, Rodà, Cain, and Mason (2025), who investigated comprehension monitoring among 58 first-grade readers using printed, computer-based, and tablet-based texts. The ability to recognize inconsistencies and monitor meaning was associated with comprehension of main ideas and literal information regardless of reading medium, and monitoring was also associated with inferential understanding of informational texts. Noticing whether information is coherent therefore contributes to comprehension even among beginning readers. The comparatively low result for checking understanding implies that teachers should make comprehension checking more observable. During guided reading, teachers may pause and verbalize questions such as whether a part makes sense, what caused the confusion, which word or sentence should be examined again, and what can be done to repair understanding. Learners may then be guided to select a suitable response rather than being told automatically to reread every difficult passage. Taboada Barber et al. (2020) examined 578 Spanish-speaking dual-language learners and 412 English-monolingual learners in Grades 1 to 4. They found that higher-order reading processes, including inference-making and comprehension monitoring, were associated with growth in reading comprehension across the school year, and that executive functioning and reading engagement contributed to comprehension partly through these strategic processes. Dual-language learners are not identical to LSENs, but the findings help explain why sustained attention, purposeful strategy selection, and the ability to detect misunderstanding should be addressed together rather than taught as isolated skills. The result for maintaining focus also implies that some learners need environmental and instructional supports during demanding reading activities. Teachers may divide lengthy selections into manageable sections, reduce distractions, provide brief movement or processing breaks, and use visual markers showing where the learner should stop and reflect, while keeping the text challenging without exceeding the learner's capacity. Stevens et al. (2024) studied 63 fourth-grade learners with inattention and reading difficulties across 13 schools. Learners who received aligned classroom and supplementary reading instruction achieved significantly better outcomes in vocabulary, content knowledge, and content reading comprehension than those receiving usual instruction, with an effect size of 0.79 for content reading comprehension compared with business-as-usual practice. Learners with attention and reading difficulties thus benefit when the same routines, language, and corrective procedures are reinforced across classroom and intervention settings.

The frequent use of contextual information, reflected in the mean of 2.80, should likewise be strengthened. İlter (2022) provided direct context-clue instruction to four fourth-grade learners who initially demonstrated poor reading comprehension. All participants substantially improved their ability to infer unfamiliar word meanings and answer comprehension questions, and they reported favorable perceptions of the instruction. Context use should therefore be deliberately taught through worked examples, guided analysis of surrounding sentences, and repeated independent practice rather than treated as a skill that develops incidentally. The high rating for adjusting reading speed is positive, but teachers should verify whether slowing down actually improves understanding. Reading more slowly does not resolve confusion when the learner lacks vocabulary knowledge, background information, or an appropriate repair procedure, so learners should combine pacing with another response, such as dividing a sentence into smaller units, rereading with emphasis, locating a clue, asking a question, or requesting audio support. Schiavo, Mana, Mich, Zancanaro, and Job (2021) tested an attention-responsive read-aloud tool with 20 children with dyslexia and 20 typically developing readers. The technology synchronized oral presentation with the reader's gaze and adjusted support according to progress through the text. Children with reading disabilities improved their comprehension scores by approximately 24 percent,

with greater benefits among those who had more difficulty reading accurately. Pacing and attention support can therefore be individualized for learners who struggle to coordinate decoding, visual tracking, and meaning construction. The behaviors should also be taught as a coordinated response rather than separately. A practical sequence is to pause, identify the difficulty, select an action, apply it, and verify whether understanding has improved. This approach is consistent with the meta-analysis of Filderman, Austin, Boucher, O'Donnell, and Swanson (2022), which synthesized 64 reading-intervention studies involving struggling readers from Grades 3 to 12. Reading comprehension interventions produced a significant overall effect of g = 0.59, and instruction emphasizing comprehension strategies and relevant knowledge produced stronger outcomes. The evidence supports direct, systematic, and repeated instruction rather than simply reminding learners to understand or read carefully. These implications should be applied with caution, because LSENs are a diverse population while the cited studies involved beginning readers, dual-language learners, children with dyslexia, and learners with attention or comprehension difficulties. Their findings should be adapted to each learner's assessed needs, disability characteristics, reading level, and mode of communication. In summary, the LSENs often used monitoring strategies, as shown by the aggregate mean of 2.91. Adjusting reading speed was the only behavior categorized as Always, while asking questions, staying attentive, using contextual information, rereading unclear portions, and checking understanding were practiced often but had not become consistently automatic. The learners generally responded to reading difficulties but may not always have consciously evaluated their comprehension before applying a corrective action. Because the results are descriptive, they establish only the reported frequency of the strategies and do not demonstrate that the strategies directly caused higher reading comprehension performance.

In terms of evaluating strategies, which concern how learners assess understanding after reading, summarize key ideas, reflect on what they learned, and judge whether their purpose was achieved, the LSENs often used evaluating strategies after reading. The aggregate mean was 3.02 and the aggregate standard deviation was 0.81. Based on the teachers' observations, the learners generally examined their understanding, revisited information, and determined what they gained from a reading activity. Since the result did not reach the highest level of frequency, these practices may not yet be consistently performed without guidance. The highest-rated indicator was checking whether they understood the text, with a weighted mean of 3.05 and a standard deviation of 0.79, making comprehension checking the most frequently observed evaluative behavior. Summarizing the main ideas, connecting textual information with previous experiences, and determining whether the reading purpose was achieved obtained identical weighted means of 3.03. The learners were therefore also able to process essential information, relate new ideas to what they already knew, and examine whether the activity met its intended objective. Reviewing a text after experiencing difficulty received a weighted mean of 3.00, indicating that rereading was regularly employed as a corrective response. Reflecting on what was learned obtained the lowest weighted mean of 2.95, although it remained within the Often category, so deeper reflection was comparatively less evident than checking comprehension or summarizing. The narrow difference of 0.10 between the highest and lowest means indicates that the six practices were relatively balanced, although standard deviations ranging from 0.78 to 0.82 reveal some variation in how consistently individual learners demonstrated these behaviors. The findings imply that LSENs possess developing skills in reviewing and judging their understanding after reading. Their ability to check comprehension is encouraging because it allows them to recognize whether meaning has been constructed. The lower result for reflection indicates a need to help learners move beyond recalling information toward explaining what they learned, identifying difficulties, and determining which techniques helped them.

These findings relate to the study of Laçin and Çetin (2022) involving teachers who supported children with learning disabilities. They reported relatively strong implementation of after-reading practices but a lower level of reading-assessment activities, and emphasized that teacher knowledge and classroom application of metacognitive techniques are important because learners with disabilities may have difficulty regulating and remembering textual information. Similarly, Albalhareth and Alasmari (2023) found that teachers of deaf and hard-of-hearing learners used evaluation practices less frequently than strategies applied before or during reading, and that teacher qualifications and training influenced implementation. LSENs may therefore require deliberate teacher modeling and repeated guidance to make post-reading evaluation a regular and independent habit. The importance of summarizing and verifying understanding is also supported by Fırat and Koyuncu (2023). In their analysis of 6,890 learners, skilled readers were more inclined than developing readers to summarize essential ideas, check whether important facts were accurately represented, and evaluate information. The mere frequency of using a technique is thus insufficient, and learners must also understand when and how to apply it. Furthermore, Habók, Oo, and Magyar (2024) found among 4,527 lower-secondary learners that problem-solving reading strategies had a significant positive effect on comprehension, which supports reviewing unclear portions and adjusting one's approach when understanding breaks down. A large-scale analysis by Ghimire and Mokhtari (2025) likewise identified positive and consistent associations between metacognitive techniques, metacognitive competence, and reading achievement across 612,004 learners from 79 countries, and recommended targeted instruction reinforcing practices such as checking summaries and verifying important information. Teachers may therefore strengthen evaluation through structured summary frames, post-reading self-checklists, reflective questions, graphic organizers, exit slips, and guided rereading. Questions about what was learned, which part was difficult, what helped understanding, and whether the reading purpose was achieved may be incorporated into every reading session, with supports first modeled by the teacher and gradually reduced as learners evaluate their comprehension independently. The LSENs already demonstrate meaningful post-reading practices, but continued explicit and differentiated instruction is needed to make them more systematic, purposeful, and independent, especially reflection and self-assessment.

Summary of metacognitive reading strategy use

Taken together, the overall result yielded a grand mean of 2.89, verbally described as Often, with a grand standard deviation of 0.91. The learners frequently employed strategies that enabled them to prepare for reading, oversee their understanding while reading, and assess their comprehension after completing a text, although these practices were not yet consistently demonstrated in every reading situation. Evaluating strategies obtained the highest weighted mean of 3.02 and the lowest standard deviation of 0.81. Checking understanding, reviewing the material, summarizing ideas, and reflecting after reading were thus the most commonly and consistently observed practices, and the lower variability indicates greater similarity in respondents' observations of post-reading behaviors. Monitoring strategies ranked second, with a weighted mean of 2.91 and a standard deviation of 0.90. LSENs frequently attempted to determine whether they understood the material while reading and employed corrective actions when they encountered difficulties, although some learners may still require reminders or assistance to recognize comprehension breakdowns and select an appropriate response. Planning strategies received the lowest weighted mean of 2.75 and the highest standard deviation of 1.01, although they were still described as Often. Preparatory behaviors such as

establishing a reading purpose, previewing a text, activating relevant experiences, making predictions, and selecting suitable techniques were less evident than actions performed during and after reading, and the higher standard deviation indicates greater differences among LSENs in preparing for reading tasks. The difference of 0.27 between the highest and lowest component means reveals that the learners were more inclined to examine their comprehension after reading than to organize their approach beforehand. Their strategic behavior may therefore have been more responsive than anticipatory, with learners reacting to information already read rather than deliberately establishing a plan. LSENs already demonstrate an emerging ability to regulate their reading across the stages of the process. Planning nevertheless deserves greater instructional attention because it provides direction for the succeeding phases, and without a clear purpose or initial approach learners may struggle to decide what to prioritize and how to respond when meaning becomes unclear.

This result is supported by Muhid et al. (2020), who found that the implementation of metacognitive techniques had a large positive effect on students' reading achievement. Their intervention included organizational planning, selective attention, comprehension checking, self-assessment, and reflection, which indicates that teaching the phases as an interconnected process can help learners become more deliberate and successful readers. The meta-analysis of Filderman et al. (2022), covering 64 studies of struggling readers from Grades 3 to 12, likewise reported a significant positive effect of reading-comprehension interventions, with strategy instruction and activation of background knowledge among the approaches associated with stronger outcomes. These findings reinforce the need to give LSENs direct instruction in previewing, connecting prior knowledge, identifying goals, checking meaning, and reviewing essential ideas. The effectiveness of such instruction depends on how consistently it is implemented. Schuler, Villiger, and Krauß (2024) found that a teacher-led self-regulated reading intervention did not produce uniform overall effects, yet several aspects of treatment integrity significantly influenced learners' outcomes. This underscores the importance of regular modeling, guided practice, monitoring, and faithful classroom implementation rather than occasional introduction of strategies. Dermitzaki (2025) found that a structured intervention with Grade 5 and Grade 6 learners significantly improved both reported strategy use and reading-comprehension performance, with gains maintained at a three-month follow-up. The program trained learners to regulate their understanding before, during, and after reading, which shows that the three components should be taught as a continuous cycle. Most directly related to the present group, Söğüt and Melekoğlu (2025) examined a multicomponent comprehension intervention among 42 students with learning disabilities. Learners who received the intervention demonstrated significantly higher strategy-use, comprehension, and self-determination scores than those in the comparison groups, indicating that LSENs benefit when academic instruction is combined with opportunities to set goals, make decisions, evaluate progress, and take greater responsibility for learning. Teachers may strengthen planning with purpose-setting guides, picture or title previews, prediction activities, vocabulary preparation, and prior-knowledge organizers. During reading, learners may use stop-and-check prompts, questioning cards, visual cues, annotation guides, and guided think-alouds. After reading, summary frames, comprehension checklists, reflection journals, and simple self-rating tools may be employed, with supports demonstrated explicitly at first and gradually reduced. Although the overall result is favorable, the strategies have not yet become fully consistent or independent habits. Sustained, explicit, and differentiated instruction is therefore necessary, particularly in establishing reading goals, activating previous knowledge, previewing texts, and selecting suitable approaches.

Level of reading comprehension performance

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The reading comprehension performance of the 110 LSENs showed that 89 learners, or 80.91 percent, were classified at the frustration level, making it the dominant category. Most learners experienced considerable difficulty understanding the assessed reading materials and required substantial teacher assistance, simplified texts, repeated explanations, or other instructional supports. Meanwhile, 13 learners, or 11.82 percent, were at the instructional level. These learners could understand the materials when provided with appropriate guidance, questioning, vocabulary support, and corrective feedback. Only eight learners, or 7.27 percent, reached the independent level, showing that a very small proportion could comprehend the texts with minimal assistance. Taken together, 92.73 percent of the learners were at either the instructional or frustration level, so nearly all LSENs required some degree of structured support during reading activities. The large difference between the frustration and independent groups reveals a substantial gap in reading comprehension performance among the respondents. The predominance of learners at the frustration level implies that ordinary classroom reading activities may not be sufficient to address their needs. Teachers should conduct diagnostic assessments to determine whether the difficulties involve word recognition, vocabulary, fluency, background knowledge, attention, inferential thinking, or a combination of these factors, and then differentiate instruction according to each learner's reading profile.

This finding is consistent with Wanzek et al. (2020), who studied fourth-grade learners with severe comprehension difficulties. Their intensive, multicomponent program improved word reading and word-reading efficiency, but these gains were not sufficient to produce comparable progress in fluency and comprehension. Learners with severe difficulties may therefore require sustained intervention that addresses both foundational reading skills and meaning construction. Likewise, Donegan, Wanzek, and Al Otaiba (2020) found that a standard, less-intensive program did not produce significant outcomes among learners with severe reading difficulties, whereas a more intensive implementation improved word reading and fluency. The frequency, duration, group size, and intensity of instruction must therefore correspond to the severity of learners' needs. The importance of coordinated support is further shown by Stevens et al. (2024), whose fourth-grade learners with inattention and reading difficulties achieved significantly better content knowledge, vocabulary, and content-reading comprehension under aligned classroom and supplemental instruction than under usual instruction. Interventions are thus more effective when classroom teaching and specialized support share consistent objectives, materials, and practices. Progress among learners with serious reading challenges may nonetheless remain gradual. Capin et al. (2024) reported that an extensive intervention improved word-reading outcomes among middle-school learners with significant reading difficulties but did not produce significant differences in standardized comprehension scores, and initial vocabulary knowledge also influenced comprehension outcomes. This highlights the importance of teaching vocabulary and oral language explicitly alongside decoding and comprehension. Technology may serve as an additional support rather than a replacement for teacher-led instruction. The meta-analysis of Alqahtani (2024) found that technology-based programs had a moderate positive effect on the reading skills of elementary learners with learning disabilities or critically low reading performance. Text-to-speech, highlighted text, multimedia vocabulary presentation, interactive questions, and self-paced practice may make reading materials more accessible to LSENs. Teachers may also provide small-group or individualized sessions combining phonics, word recognition, repeated reading, vocabulary development, comprehension questioning, summarization, and visual organization. Materials should be matched to current ability before text complexity is gradually increased, and progress should be assessed regularly so that instruction can be intensified, modified, or reduced. The reading comprehension performance of the LSENs was generally

low, with more than four-fifths of the respondents at the frustration level and only a limited number reading and understanding the materials independently. This indicates an urgent need for systematic, intensive, and differentiated reading assistance. LSENs should not be expected to improve through repeated exposure to difficult texts alone. They require diagnostic-based instruction, appropriate materials, explicit teaching, continuous progress monitoring, and coordinated support from receiving teachers, special education teachers, parents, and other professionals.

Relationship between metacognitive reading strategy use and reading comprehension performance

The chi-square test of association between metacognitive reading strategy use and reading comprehension performance yielded a chi-square value of 7.095 with 4 degrees of freedom and a p-value of 0.131 (reported as $p = .131$). Since the p-value is greater than the 0.05 level of significance, the null hypothesis was not rejected. No statistically significant association was established between the learners' reported use of metacognitive reading strategies and their reading comprehension performance. Differences in the use of planning, monitoring, and evaluating strategies were not systematically accompanied by differences in comprehension levels, and LSENs who frequently displayed these strategies did not necessarily achieve higher reading performance than those who displayed them less frequently. The finding should not be read as proof that metacognitive strategies are ineffective. The data simply did not provide sufficient evidence of an association within the group studied. The result may be partly explained by the difference between displaying a strategy and using it effectively. A learner may reread, summarize, preview a passage, or check understanding without applying the activity accurately or independently. The concentration of learners at the frustration level may also have limited variation in reading performance, making differences across levels harder to detect. The frequency of strategy use alone may not represent the quality, timing, appropriateness, and independence of its application. The result concerns the tabulated categorical association only. It does not show which individual domain predicts comprehension, and the underlying contingency table and expected frequencies should be verified.

The finding is consistent with Batac (2024), who examined Filipino senior high school learners and found very weak and nonsignificant relationships between reading comprehension and several categories of metacognitive reading strategies. Learners could report using strategies while still performing below the expected reading level, and Batac recommended additional comprehension measures and direct intervention rather than assuming that awareness automatically results in better performance. A similar explanation may be drawn from Bernardo and Mante-Estacio (2023), who used nationally representative Philippine PISA 2018 data and found that learners' perceptions of useful strategies did not always correspond with the strategies most strongly associated with reading proficiency. Some commonly valued practices showed weak or nonsignificant associations, while certain less-appreciated strategies were more strongly connected with achievement. Learners may know a technique without understanding when, why, and how to employ it successfully. The present finding differs from the broader meta-analysis of Sun et al. (2021), which synthesized 57 effect sizes representing 21,548 readers and identified generally meaningful associations between reading strategies and comprehension. However, the reviewed studies involved varied populations and excluded participants with diagnosed physical conditions, and the authors acknowledged that relationships differed by language, developmental stage, and strategy category. Findings from general student populations may thus not be directly reproduced among LSENs, whose learning profiles and support requirements are far more diverse. The nonsignificant result further

implies that comprehension among LSENs may be shaped more directly by foundational language and cognitive abilities. Nilsson et al. (2021) assessed 136 adolescents with intellectual disabilities and found that vocabulary and phonological executive-loaded working memory were concurrent predictors of comprehension. Understanding written material depends on more than strategic awareness, since it also requires recognizing language, retaining information, connecting ideas, and processing meaning. Okur (2025) found that, among elementary learners with specific learning disabilities, verbal working-memory training produced a statistically significant improvement in reading comprehension, although it did not significantly improve reading speed or accuracy. Strengthening the capacity to hold and manipulate verbal information may thus contribute to understanding even when other reading skills remain difficult.

These studies imply that metacognitive reading strategies should not be taught as isolated routines. Teachers should first determine whether learners possess the decoding, vocabulary, fluency, attention, memory, and oral-language skills required to carry out each strategy. For example, asking a learner to summarize may have limited value when the learner cannot identify important words, retain key details, or understand sentence relationships. Instruction should combine strategy development with foundational literacy support. Teachers may model the complete thinking process through think-alouds, provide guided practice with short, ability-appropriate passages, and verify whether learners can explain why a technique is being used. Visual prompts, vocabulary preparation, sentence-level questioning, repeated exposure, and immediate corrective feedback may help learners move from merely performing an activity to applying it purposefully. The finding also has a methodological implication. Future studies may examine planning, monitoring, and evaluating separately rather than as one overall variable, and may measure the quality and independence of strategy application through direct observation, think-aloud protocols, task-based assessments, or learner interviews. Disability classification, vocabulary, fluency, working memory, instructional setting, and degree of teacher assistance may also be included as explanatory or moderating variables.

Synthesis of findings

In summary, the 110 LSENs often used planning (aggregate mean of 2.75, standard deviation of 1.01), monitoring (aggregate mean of 2.91, standard deviation of 0.90), and evaluating strategies (aggregate mean of 3.02, standard deviation of 0.81), for a grand mean of 2.89 and a grand standard deviation of 0.91, all described as Often. Evaluating was the most evident component and planning the least developed and most variable. These findings address the first objective by showing that the learners have an emerging but not yet consistent or independent capacity to regulate their reading before, during, and after a text. The comprehension results address the second objective, with 89 learners (80.91 percent) at the frustration level, 13 (11.82 percent) at the instructional level, and 8 (7.27 percent) at the independent level. The chi-square test (chi-square = 7.095, df = 4, p = 0.131, alpha = 0.05) addresses the third objective: the null hypothesis was not rejected, and no significant association was established between strategy use and comprehension performance. The reported analyses do not identify which domain predicts comprehension, so the fourth objective remains open to further analysis with learner-level paired data. Together, these results suggest that frequent strategy use does not by itself translate into stronger comprehension among LSENs, and that its benefits likely depend on accurate application and on supporting abilities such as vocabulary, decoding, fluency, attention, and working memory. The study contributes localized evidence from a population that remains underrepresented in the metacognitive

reading literature and supports integrating explicit strategy instruction with targeted literacy and cognitive support based on assessed needs. These conclusions provide the basis for the conclusion, recommendations, and proposed Instructional Intervention Plan presented in the next chapter.

CONCLUSION

The findings suggest that teachers observed fairly frequent use of planning, monitoring, and evaluating strategies while most reported learner comprehension classifications were at the frustration level. The nonsignificant chi-square result does not establish a statistically detectable categorical relationship in the reported analysis; it does not demonstrate causality or rule out relationships under other valid measures. The proposed instructional intervention therefore emphasizes explicit and scaffolded reading instruction, individualized assessment, and support for foundational literacy, with effectiveness to be evaluated through subsequent implementation.

It is recommended that schools provide explicit and differentiated strategy instruction in planning, monitoring, and evaluating alongside decoding, vocabulary, fluency, and comprehension supports. Diagnostic assessment and regular monitoring should inform learner-level instructional adjustments; teachers and school leaders should coordinate appropriate accommodations and family communication. The study's respondent counts, sampling method, actual instruments, Cronbach's alpha coefficients, and the complete association and regression outputs should be checked against original records before final institutional submission. The researcher further recommends the Instructional Intervention Plan presented in Chapter 5, subject to implementation review and available resources.

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