Metacognitive Reading Strategies Used by Cambodian EFL Undergraduates to Comprehend English Texts

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Abstract

This study examined Cambodian university students' self-perceived metacognitive strategies for planning, controlling, and improving their reading comprehension when engaging with school-related materials in English. It also explored the potential correlation between these metacognitive strategies and English reading proficiency. Ninety-one juniors at a private university took a multiple-choice reading proficiency test and then completed the Survey of Reading Strategy (SORS) (Mokhtari & Sheorey, 2002). To gain deeper insights, follow-up semi-structured interviews were conducted with eight randomly selected participants from the sample. The descriptive analysis revealed moderate overall strategy utilization, with problem-solving strategies being the most frequently employed. Pearson's product-moment correlation coefficient indicated a weak but significant relationship between support reading strategy use and reading proficiency scores. The qualitative data from the interviews, elaborated on the statistical findings, demonstrated that the students were aware of some strategies, providing a better understanding of their metacognitive processes.

Keywords: metacognitive reading strategies, English reading proficiency, problem-solving strategies, support reading strategies, global reading strategies

Introduction

Reading is equally essential for first-language (L1) and second-language (L2) learners (Zhang, 2017). It is a process in which readers construct meaning by integrating information from a text with their prior knowledge, with comprehension as the ultimate goal (Anderson, 2003). Because reading is a complex process (Zhang, 2017), it requires the application of diverse reading strategies. These strategies fall into cognitive and metacognitive categories. Cognitive reading strategies, such as planning and goal setting, utilizing prior knowledge, making predictions, summarizing, or monitoring comprehension, help readers actively engage with the text, and metacognitive reading strategies, including problem-solving strategies, global reading strategies, and support reading strategies, enable

readers to facilitate comprehension of the text (Ali & Razali, 2019). Thus, reading strategies are crucial for L2 learners to comprehend texts effectively (Yang & Sim, 2017).

Metacognitive strategies are grounded in metacognition (Ngoc, 2022), a central component of the reading process (Anderson, 1991). Metacognition refers to the understanding and control of cognitive processes, enabling learners to implement, monitor, and regulate their strategy use, identify strengths and weaknesses, and ultimately enhance learning (Flavell, 1979). In the context of reading, metacognition encompasses both awareness and regulation. Metacognitive awareness involves readers' understanding of their comprehension processes and the strategies that support comprehension. Metacognitive regulation involves deliberate actions, such as planning, monitoring, evaluating, and refining strategies (van Kraayenoord, 2010, as cited in Zhang & Zheng, 2020). For example, a reader demonstrating metacognitive awareness might recognize a lack of understanding, while the corresponding regulation might involve rereading or consulting a reference.

Metacognitive reading strategies, such as planning, monitoring, and assessing, are essential for learners to regulate their learning processes actively (Wenden, 1998). By applying these strategies, learners can think critically about their learning, monitor their progress, and adjust their approaches as needed (Vandergrift, 2002). Moreover, metacognitive reading strategies have been deemed particularly effective in facilitating comprehension (Williams & Atkins, 2009), and learners with strong metacognitive abilities often achieve their language learning objectives more effectively (Griffith & Ruan, 2005). However, applying metacognitive reading strategies can vary significantly among learners with different proficiency levels (Phakiti, 2003). More proficient learners are more likely to engage in strategic planning and monitoring, while less proficient learners may need support in consistently applying these strategies. Research has consistently demonstrated that more proficient readers frequently employ metacognitive strategies than their less proficient counterparts (e.g., Lau & Chan, 2003; Ngoc, 2022; Tavakoli, 2014).

Metacognitive awareness is integral to enhancing L2 reading success (Zhang, 2010), and numerous studies have investigated the role of metacognitive strategies in L2 reading (e.g., Al-khresheh & Al Basheer Ben Ali, 2023; Chutichaiwirath & Sitthitikul, 2017; Hong-Nam & Page, 2014; Meniado, 2016; Sutiyatno & Sukarno, 2019; Yang & Sim, 2017). More researchers are keen to find out whether metacognition knowledge, if any, affects students' L2 reading performance. There is research evidence (e.g., Alqahtani, 2019; Ghaith & El-Sanyoura, 2019; Hong-Nam & Page, 2014; Muhid et al., 2020; Par, 2020; Park, 2010; Rastegar et al., 2017; Sutiyatno & Sukarno, 2019) that has demonstrated a positive relationship between metacognitive reading strategies and English reading proficiency. These findings align with the established correlation between strategic reading skills and academic success (Mokhtari et al., 2008), emphasizing that reading involves metacognitive awareness rather than simply focusing on decoding individual words. Therefore, learners are strongly encouraged to engage in strategic reading to enhance effectiveness in L2 reading.

English has spread throughout Cambodia and has become widely taught, learned, and used in the EFL context over the last three decades. Despite the increasing demands of academic reading in English for Cambodian EFL students, classroom observations and the researcher's experience suggest a potential gap in their awareness and effective use of metacognitive reading strategies. Many students at the present research site rely heavily on rote memorization and translation into L1 when attempting to comprehend complex English texts, often focusing primarily on decoding individual words and grammatical structures (a bottom-up approach) rather than actively engaging in higher-order thinking processes. This reliance on lower-level processing may indicate a lack of awareness and utilization of metacognitive strategies such as predicting, summarizing, questioning, and monitoring comprehension. In addition, it is unclear whether students have received explicit instruction in these strategies, are using them appropriately, or are motivated to employ them effectively. Understanding the Cambodian students' current metacognitive awareness is crucial for developing effective interventions to improve their reading comprehension and academic success.

The Survey of Reading Strategies (SORS) measures students' metacognitive awareness (Mokhtari & Sheorey, 2002). It assesses metacognitive awareness and perceived usage of reading strategies among non-native English speakers (Mokhtari & Sheorey, 2002). Mokhtari and Sheorey (2002) richly designed the SORS instrument, which had been modified from the Metacognitive Awareness of Reading Strategies Inventory (MARSI), initially developed by Mokhtari and Reichard (2002). Indeed, the original purpose of the MARSI is to gauge awareness and use of reading strategies by adult and adolescent students when reading academic or school-related materials (Mokhtari & Reichard, 2002). MARSI is the widely used reading strategy questionnaire (Lin, 2019). According to Mokhtari and Sheorey (2002), the SORS contains three main categories, including global reading strategies (henceforth "GLOB"), problem-solving reading strategies (henceforth "PROB"), and support reading strategies (henceforth "SUP"). The GLOB strategies are learners' deliberate, well-planned approaches to monitoring or controlling their reading. They are, for example, reading with a purpose in mind, previewing the text for length and organization, or utilizing typographical aids, tables, and figures. The PROB strategies are activities and bases readers undertake while dealing with a text. "These are localized, focused techniques used when problems develop in understanding textual information; examples include adjusting one's reading speed when the material becomes difficult or easy, guessing the meaning of unknown words, and rereading the text to improve comprehension." (p. 6). Bare support acts, for example, checking a dictionary, taking notes, underlining, or highlighting textual content, are SUP strategies.

Previous studies using the SORS as the primary data gathering have been undertaken in various contexts. The constant result of these studies is EFL learners' frequent use of metacognitive reading strategies. For example, Ghaith and El-Sanyoura (2019) in Lebanon, Par (2020) in Indonesia, Yüksel and Yüksel (2012) in Turkey, and Zhang and Wu (2009) in China all showed that university or high school students employed the strategies at a moderate to high frequency. These results correspond with

a comprehensive grasp of metacognition as the key element of the L2 reading process, indicating that learners recognized and employed metacognitive strategies to comprehend reading texts. Interestingly, PROB strategies were reported as the most favoured strategy category. Ghaith and El-Sanyoura (2019), Par (2020), Yüksel and Yüksel (2012), and Zhang and Wu (2009) similarly revealed that PROB strategies are the most commonly used and positively associated with reading achievement. This trend suggests that students prioritized PROB strategies to deal with reading comprehension difficulties, such as identifying key information and meaning inference from context. Nonetheless, earlier investigations showed discrepancies in applying other strategy categories, especially SUP strategies. The studies (e.g., Zhang & Wu, 2009) showed no significant difference in SUP strategy use across proficiency levels; however, other studies (e.g., Ghaith & El-Sanyoura, 2019; Yüksel & Yüksel, 2012) identified these strategies as the least use. This gap may arise from divergent interpretations of SUP strategies or differences in the particular strategies encompassed within this category between research studies. Methodological disparities also exist. Correlational design was used in earlier studies (e.g., Rastegar et al., 2017; Sutiyatno & Sukarno, 2019) to investigate the association between metacognitive reading strategy use and reading achievement, while others (e.g., Ghaith & El-Sanyoura, 2019; Par, 2020) employed regression analysis to determine the predictive capacity of particular strategy categories. It can be seen that variables influenced the findings. For example, correlational studies merely indicated a relationship, while regression analysis ascertained predictors of reading achievement. These robust findings across contexts (Indonesia, Iran, Turkey, and China) suggest a universal benefit of metacognitive strategies in second-language reading.

This study will unquestionably explain how Cambodian EFL students utilize metacognitive strategies to read English texts and the relationship, if any, between reading proficiency and the strategies. Furthermore, the findings will clarify what metacognitive reading strategies facilitate the students' reading tasks. Cambodian lecturers of English can devise effective reading teaching techniques or methods based on the results. Providing that the findings suggest reading strategy training or instruction, English lecturers should consider it a lesson in the course syllabus because strategies are not unteachable and should be facilitated by the teacher (Oxford, 2018).

Research Objectives and Questions

Based on the above view, the overarching purposes of the present study are twofold: (1) to explore the metacognitive strategies used by Cambodian EFL students when reading a text in English and (2) to examine the possible correlation between metacognitive strategies and their reading comprehension proficiency. The research questions were listed to guide this study.

1. What metacognitive reading strategies do the students report employing when reading their school-related materials in English?

2. Do metacognitive reading strategies correlate with English reading proficiency?

Methodology

The study employed a mixed-method design that combined quantitative and qualitative methods for this investigation. It is specifically known as the explanatory design, in which a quantitative phase is conducted initially and then a qualitative phase is conducted to follow up on specific results. The second phase is to provide a more thorough explanation of the preliminary findings, and the design name reflects this emphasis on the explanation of outcomes (Creswell & Plano Clark, 2011).

Participants

The participants were identified using convenient and purposeful sampling strategies. Convenient sampling involves choosing the participants depending on their availability and willingness to be investigated (Creswell, 2012). Besides, convenient sampling allowed the researcher to collect data quickly. The participants in this study were my students; therefore, I acknowledged the dual role of teacher and researcher in introducing ethical considerations. The participants were readily available, and I obtained the dean's approval as well as the consent of the students. Purposive sampling can be used in quantitative and qualitative research to find and choose suitable samples who are informed and experienced about a topic (Creswell & Plano Clark, 2011). It is grounded in the researcher's familiarity with the population's awareness and ability to extract information that interests them (Mackey & Gass, 2015). In this context, the goal was to ensure the participants were familiar with English reading texts. 91 students from the three classes were selected, representing the entire number of third-year English majors at a private university for the 2022-2023 academic year. Voluntarily, they participated in the study. Fifty-nine (64.8%) self-identified as female, and thirty-two (35.2%) self-identified as male.

Instruments

The primary data source of this study is the SORS (Mokhtari & Sheorey, 2002). This inventory was designed to assess ESL or EFL adult students' awareness and use of metacognitive reading strategies when reading academic or school-related materials in English (Mokhtari & Sheorey, 2002). Indeed, the SORS is deemed appropriate for the present study because it investigates the Cambodian L2 university students' metacognitive awareness and use of reading strategies when engaging with school-related English reading texts. Besides, it has been extensively employed in prior research, demonstrating satisfactory internal consistency ($\alpha = 0.89$), as Mokhtari and Sheorey (2002) indicated. This self-reported instrument comprises three subscales: GLOB with 13 items, PROB with eight items, and SUP with nine items. The Likert scale for the total 30 items in the SORS ranges from 1, "*I never or almost never do this*," to 5, "*I always or almost always do this*." Moreover, Cronbach's alpha for the overall SORS is .89, indicating high internal consistency.

Additionally, the interview protocol aimed to explore more of the students' metacognitive reading strategies. This triangulated the survey results and provided additional research insights. The

researcher audio-recorded and transcribed semi-structured interviews to capture participant data, remarks, specific questions, and in-depth follow-up questions.

Finally, a multiple-choice standardized TOEFL test measured participants' English reading proficiency. The test is in paper-based test format. Two reading passages adopted from Peterson's Master TOEFL Reading Skills practice test (Hammond, 2007) were administered to the participants. Each reading question has four choices. The test has a total score of 20, with all items scoring equally at one point. In 40 minutes, the participants must have completed 20 questions. I decided to use the TOEFL test because the participants are contextually familiar with it; moreover, the test questions comprise various reading skills, such as main idea identification, specific information, pronoun reference, understanding vocabulary in context, summarizing the main points, and making an inference.

Data Collection

Because the participants were my students, I administered the instrument during regular class. Three classes at the chosen university participated in this study. First, I distributed the reading test and questionnaire to each respondent. In addition to answering students' questions and assuring them that all information gathered would be kept private and used solely for the study, I read the instructions aloud to the class. All students finished the reading test and questionnaire in the first 40 minutes and the following 20 minutes, respectively.

After administering the test and questionnaire, I conducted the semi-structured interview. Creswell and Plano Clark (2011) recommended that in a mixed methods sequential explanatory study, an individual who participated in the quantitative data collection should be selected for the qualitative follow-up phase. They also suggested that qualitative data collection is conducted from a much smaller sample size than quantitative data collection. I randomly chose eight students among all participants to participate in interview sessions. I probed the students deeply about their reading engagement and metacognitive-related experiences. The duration of each interview was approximately 50–60 minutes. The interview was conducted in Khmer, according to the students' familiarity.

Data Analysis

The overall use of metacognitive reading strategies is interpreted based on the mean score criteria set by Mokhtari and Sheorey (2002), categorized as *high* (mean of 3.5 or higher), *moderate* (mean of 2.5 to 3.4), and *low* (mean of 2.4 or lower). Descriptive statistics were performed to address the first research question, identifying students' metacognitive reading strategies and frequency of use. Pearson's correlation product-moment coefficient was performed to determine the degree of correlation between the use of each category of metacognitive reading strategy (GLOB, SUP, and PROB) and English reading proficiency, as determined by TOEFL reading scores. This was done to answer the second research question. Additionally, interview data were meticulously coded to enrich and explain

the quantitative data due to the recurring theme of the types of metacognitive strategies used and how these strategies were employed.

Results

Quantitative Findings

Overall pattern of metacognitive reading use by Cambodian EFL learners

To address research question one, Table 1 shows the average score of the overall use of the metacognitive reading strategies, which was 3.39, interpreted as moderate. In addition, the same table displays a high use of the PROB category (*M* = 3.54, *SD* = .71), followed by a moderate use of the SUP category (*M* = 3.39, *SD* = .65), and finally the GLOB category (*M* = 3.23, *SD* = .57).

Table 1

Metacognitive Reading Strategy Use (n=91)

Categories	*M*	*SD*	Level
GLOB	3.23	.57	Moderate
SUP	3.39	.65	Moderate
PROB	3.54	.71	High
Total	3.39	.54	Moderate

Within the category of GLOB, two strategies (15.39%) fell at a high level, while the remaining strategies (84.61%) had means between 2.81 and 3.44, pointing to moderate usage. For instance, the two most highly used strategies were "checking how the content of text fits reading purpose" (*M* = 3.64, *SD* = 1.11) and "setting purpose for reading" (*M* = 3.55, *SD* = .806). However, it can be seen that the two least GLOB strategies at the moderate level were "noting text characteristics" (*M* = 2.81, *SD* = 1.12) and "determining what to read and ignore" (*M* = 2.84, *SD* = 1.11).

As shown in Table 2, eight PROB strategies ranged from moderate (50%) to high (50%). For example, two highly employed strategies included "reading slowly and carefully" (*M* = 3.85, *SD* = .97) and "re-reading for better understanding" (*M* = 3.7, *SD* = 1.11). On the other hand, two least favored strategies, which were at the moderate level, were "pausing to reflect on reading" (*M* = 3.31, *SD* = .98) and "picturing or visualizing information" (*M* = 3.38, *SD* = 1.12).

Students employed SUP strategies to improve comprehension and memory. The results indicated that SUP strategies espoused at a high level were five (55.55%), and at a moderate level, they were four (44.55%). For instance, two most favored high-level strategies were "underlining and circling information" (*M* = 3.92, *SD* = 1.09) and "thinking of information in English and native language" (*M* = 3.93, *SD* = 1.03). Moreover, two least moderately used strategies were "asking oneself questions" (*M* = 2.8, *SD* = 1.14) and "reading aloud when text becomes hard" (*M* = 2.93, *SD* =1.27).

Table 2

Distribution of Metacognitive Strategy Use by the Students

Type	Metacognitive Reading Strategies	*M*	*SD*	Level
GLOB	Setting purpose for reading	3.55	.806	High
	Using prior knowledge	3.44	.885	Moderate
	Previewing text before reading	3.29	.934	Moderate
	Checking how the content of text fits reading purpose	3.64	1.11	High
	Noting text characteristics	2.81	1.12	Moderate
	Determining what to read and ignore	2.84	1.11	Moderate
	Using text feature, such as tables, figures and pictures	3.3	1.13	Moderate
	Using context clues	3.04	1.02	Moderate
	Using typographical aids (e.g., italics)	3.41	1.13	Moderate
	Analyzing and evaluating the information	3.02	1.05	Moderate
	Checking my understanding	3.34	1.03	Moderate
	Guessing the context of the text	3.24	1.09	Moderate
	Checking if guesses are right	3.18	1.02	Moderate
PROB	Reading slowly and carefully	3.85	.97	High
	Getting back when losing concentration	3.45	1.01	Moderate
	Adjusting reading rate	3.56	1.04	High
	Paying close attention when facing text difficulties	3.43	1.16	Moderate
	Pausing to reflect on reading	3.31	.98	Moderate
	Picturing or visualizing information	3.38	1.12	Moderate
	Re-reading for better understanding	3.7	1.11	High
	Guessing meaning of unknown words or phrases	3.65	1.18	High
SUP	Taking notes while reading	3.52	1.1	High
	Reading aloud when text becomes hard	2.93	1.27	Moderate
	Underlining and circling information	3.92	1.09	High
	Using reference materials, such as dictionary	3.83	1.23	High
	Paraphrasing for better understanding	3.03	1.16	Moderate
	Going back and forth to find relationships among ideas	2.97	1.16	Moderate
	Asking oneself questions	2.8	1.14	Moderate
	Translating from English into native language	3.65	1.19	High
	Thinking of information in English and native language	3.93	1.03	High

Correlation between the application of metacognitive reading strategies and English reading proficiency of Cambodian EFL learners

Pearson correlation coefficient analysis was performed to determine the relationship between participant usage of each strategy category and reading proficiency test results. As Table 3 displays, the

results showed a weak but significant relationship between SUP use and English proficiency scores (r = .294, p = .005).

Table 3

Correlations between the Three Categories and English Reading Proficiency

Measure	1	2	3	4
1. English reading scores	___			
2. GLOB	.051	___		
3. PROB	.294**	.607**	___	
4. SUP	.000	.602**	.519**	___

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

Qualitative Findings

This section provided qualitative insights that elucidate quantitative results. All interviewees were anonymized and abbreviated (e.g., S1, S2). The interview results indicated three emerging themes.

Motives for moderately employing metacognitive reading strategies

Four out of the eight participants demonstrated moderate utilization of metacognitive reading strategies. First, three participants acknowledged that they often employed the most familiar strategies when reading a text because they studied a small number of strategies in the classroom, such as skimming and scanning skills, using a dictionary, contextual understanding, and applying prior information. Remarkably, two participants indicated that they ignored strategy use if reading time was a constraint. By way of example, S6 admitted, "Sometimes I will avoid applying strategies if I do not have sufficient time to finish the reading passage." Lastly, four participants similarly expressed uncertainty over their ability to adopt strategies and identify appropriate ones, as they regard themselves as not habitual strategic readers. For instance, S5 said, "I am unprepared to use various strategies and pick the appropriate strategies. I do not have a habit of reading strategically."

The most employed metacognitive reading strategies

All eight participants were aware of some individual strategies encompassing GLOB, PROB, and SUP, although not all strategies under each category were recognized.

Five out of eight informants repeatedly used SUP. The most common SUP strategies employed by them were (1) highlighting, underlining, or circling key information, (2) using a dictionary to check definitions and examples, (3) translating from English into Khmer, and (4) thinking of information in English and Khmer. For instance, S3 said, "When reading a passage, I always consult a dictionary, especially a bilingual one, to define unfamiliar words." Meanwhile, S5 added, "I prefer using Google Len and Google Translation to translate short or long reading texts into Khmer." In addition, four

students revealed the usual use of a few PROB strategies, including (1) picturing or visualizing information, (2) reading slowly and carefully, (3) re-reading for better understanding, and (4) guessing the meanings of unknown words. For example, S1 stated, "I do not quickly read a reading passage as I am afraid that I might miss any key information. Thus, I need to read slowly from one sentence to another." Individual strategies of GLOB, including (1) scanning and skimming skills; (2) using prior knowledge; and (3) guessing the context of the text were frequently adopted by four students during the reading process. As an illustration, S7 said, "Contextual understanding allows me to engage in reading and understand it." S6 stated, "What I used to learn since high school is how to scan specific information and skim for a gist in a text. I read each paragraph's first sentence and sub-headings to grasp the passage's main idea."

The least employed metacognitive reading strategies

The qualitative results showed that a few SUP strategies were not favored among the three participants. To illustrate, SUP strategies, such as (1) paraphrasing information and (2) seeking relationships among ideas in the reading text, were seldom utilized because these are challenging and demanding. For instance, S2 admitted, "I need to restate some required information of the text, but I think that it is a demanding task." Additionally, two students said reading aloud when a text becomes hard was not their favorite strategy, for they did not need to apply it while reading. When analyzing the data from the other two students, PROB strategy they least employed similarly was getting back when losing concentration. For example, S4 stated, "I become anxious when distracted while reading a long text. As a result, I cannot get back to read it." Also, three participants' GLOB strategies that were least frequently used were (1) analyzing and evaluating the information and (2) determining what to read and ignore.

Discussion

Metacognitive Reading Strategy Use

Related to the frequency of metacognitive reading use, the findings were in line with the studies in the past (e.g., Al-khresheh & Al Basheer Ben Ali, 2023; Al-Nujaidi, 2003; Do & Phan, 2021; Hong-Nam, 2014; Lee, 2007; Meniado, 2016; Tavakoli, 2014; Wahyuni et al., 2018; Wallace et al., 2021; Wu, 2005; Yang & Sim, 2017), which demonstrated that overall usage of metacognitive reading strategies was of moderate degree. The participants used certain categories and individual strategies more often than others. Cambodian learners may perceive that English is particularly advantageous for academic purposes. As a result, they tended to apply some strategies when reading academic English texts. However, students' medium strategic awareness may be ascribed to their unfamiliarity with specific metacognitive reading strategies aiding text comprehension. Given limited exposure to English

reading habits (Meniado, 2016), learners probably moderately understood metacognitive reading strategies. The qualitative data corroborate this finding, with four students admitting to using strategies in moderation. This observation aligns with Dang's study (2024), which indicated that learners engage in spontaneous reading. Consequently, these findings suggest that they lacked a habit of strategic reading and were unprepared to engage in it. This behaviour pattern highlights the necessity for explicit teaching in metacognitive reading strategies to improve students' comprehension and overall reading performance.

The systematic literature review's findings pinpoint most past studies with a significant focus on PROB strategies (Kan et al., 2024). The results of the predominant level of PROB in this study were consistent with earlier findings (e.g., Chutichaiwirath & Sitthitikul, 2017; Do & Phan, 2021; Hong-Nam & Page, 2014; Par, 2020; Sheorey & Mokhtari, 2001; Wahyuni et al., 2018; Wallace et al., 2021; Yüksel & Yüksel, 2012). Furthermore, numerous studies (e.g., Chutichaiwirath & Sitthitikul, 2017; Do & Phan, 2021; Par, 2020; Wahyuni et al., 2018; Wallace et al., 2021; Yüksel & Yüksel, 2012) showed that PROB was the frequently used strategy in the context of EFL learners. Readers employed PROB when interacting directly with a text (Mokhtari & Sheorey, 2002). The PROB strategies, such as reading slowly and carefully, re-reading for better understanding, guessing the meaning of unknown words or phrases, and adjusting reading rate, were utilized frequently, and these strategies were not demanding from the readers (Park, 2010). The Cambodian readers applied those when encountering comprehension issues while interacting with English academic texts. Reading comprehension problems can cause learners to feel anxious, confused, and demotivated; therefore, to deal with these problems and focus on reading efficiently, learners may find it helpful to use PROB (Berkowitz & Cicchelli, 2004).

Relationship between Metacognitive Reading Strategies and Reading Proficiency

There was no significant correlation between overall self-reported metacognitive reading strategies and reading proficiency. Cambodian learners employed metacognitive reading strategies moderately, regardless of their reading proficiency. This result confirms earlier studies (e.g., Dang, 2024; Mehrdad et al., 2012; Meniado, 2016; Turhan & Ozer, 2017; Wahyuni et al., 2018). Two possible explanations may lie in this finding. Firstly, reading difficulty factors and other characteristics stemming from the reader themselves may influence learners' reading proficiency scores. During the interviews, certain factors found among all participants were less concentration, reading anxiety, unfamiliar words and expressions, insufficient prior knowledge, complicated grammar structure on the texts, and lengthy texts, which may influence Cambodian learners' English reading proficiency. Phakiti (2003) pointed out that individual characteristics may affect reading performance. Regarding qualitative results, Cambodian students instinctively used some metacognitive strategies despite not strategically employing them. It should be inferred that it is not the sole reason for strategy utilization but emerging factors contributing to reading difficulties and the readers themselves. This study's use of qualitative data to elucidate the non-relationship between the two variables aligns with previous

research by Dang (2024). Dang's finding showed that metacognitive reading strategies did not predominantly affect readers' performance. Instead, reader factors and text variables played a more significant role in determining reading outcomes. By corroborating Dang's findings, the present study reinforces the complex nature of reading comprehension and underscores the importance of considering multiple factors beyond metacognitive reading strategies when assessing learners' reading performance.

Secondly, readers' strategy awareness and employment are insufficient predictors of reading comprehension achievement (Anderson, 1991). However, learners' ability to strategically use knowledge should be justified (Ertmer & Newby, 1996). According to interview findings, all participants lacked exposure to metacognitive reading training instruction and were not confident about their ability to use these strategies appropriately. This lack of training and confidence may explain the non-correlation between strategy use and reading performance among Cambodian readers. They may need to be more familiar with metacognitive strategies and learn to apply them to address these issues consciously. Oxford (2013) agrees with this approach, positing that direct classroom teaching of strategies definitely supports the goal of strategy assistance, ultimately enabling them to become effective L2 learners.

Conclusion

In a nutshell, this study set out to provide a picture of the metacognitive strategies used by Cambodian EFL students and investigate the relationship between the strategies and their reading comprehension proficiency. The quantitative results showed that students used metacognitive reading strategies moderately, and qualitative results showed that students were metacognitively aware of the three categories: PROB, SUP, and GLOB. As PROB was the highly used category, it can be inferred that the students could handle whatever reading challenges they encountered when reading academic or school-related materials. Nonetheless, they may only sometimes apply the strategies, even if they know them. It is not sufficient to merely be aware of acceptable reading strategies. Students should additionally be able to regulate or monitor the application of these to succeed in reading comprehension (Baker & Brown, 1984, as cited in Mokhtari & Reichard, 2002). The result indicated that only SUP was found to have a weak correlation with reading proficiency. Thus, explicit metacognitive reading strategy instruction should be weighed to ascertain that Cambodian learners can increase their strategy awareness and employ the strategies correctly and effectively. More importantly, Mokhtari and Reichard (2002) pedagogically postulated that teachers should fundamentally understand students' thinking processes and help struggling readers engage actively in reading. Increasing comprehension awareness is crucial for further constructive, strategic, and thoughtful reading.

Limitations of the Study

A few limitations apply to this study. First, the small sample size, drawn from a single university, limits the generalizability of the results to the broader population of Cambodian university

students. Second, interview data were transcribed and analyzed by a single researcher, potentially introducing concerns about inter-rater reliability. Third, the study did not categorize the learners into low or high-reading-ability groups based on their reading proficiency levels. This omission prevented analyzing of how strategy utilization might vary across proficiency levels.

Research Implication

Despite the limitations mentioned above, this study provides implications. Teaching students how to use metacognitive strategies is crucial in the reading classroom because they regulate other strategies (O'Malley & Chamot, 1990). Cambodian readers moderately employed reading strategies ranging from medium to high level. Equipping Cambodian learners with knowledge of specific strategies for their learning activities will enhance effective learning and allow them to explore their reading techniques. Teachers should motivate and support students using metacognitive reading strategies and diagnostically address different levels by scaffolding the strategies in literacy-based activities and guiding students toward independent reading and comprehension. Based on the data, some employed strategies demand a more advanced or skilled level from the learners, although it was reported that they at least utilized them at a moderate level. The teacher should establish good reading habits and build existing knowledge among their students. Students will perceive their reading materials positively.

Suggestions for Further Research

Further investigations should consider the need for more representative samples. Other refined instruments, namely think-aloud protocols, should be used to discover more insight into metacognitive reading strategies during their reading. Moreover, longitudinal design can benefit further research on metacognitive reading strategies. Later studies may look into participants' reading strategies when reading different types of texts (e.g., expository or cause-and-effect). To establish a causal relationship between the use of metacognitive reading strategies and reading achievement, future studies should employ experimental research designs that explore the influence of using specific categories of reading strategies. Thus, it should be reading-strategy-based instruction or training.

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