
ENHANCING EFL READING: STUDENT TEACHER'S METACOGNITIVE PRACTICES IN ISLAMIC HIGHER EDUCATION

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Abstract

Metacognition refers to the awareness and regulation of one's cognitive processes. In the context of reading, it involves the employment of metacognitive strategies to promote reading comprehension. This qualitative case study aims to explore the perceptions of English as a Foreign Language (EFL) student teachers regarding their reading processes and the strategies they consider effective. The research focuses on the metacognitive reading experiences of EFL student teachers who were purposively selected from an Islamic university in Palembang, South Sumatra, Indonesia. To gather data, semi-structured interviews were conducted, allowing participants to reflect on their metacognitive reading practices. The thematic analysis of the interview data revealed that student teachers regarded metacognitive strategies as essential tools for enhancing reading comprehension. They employed a variety of metacognitive strategies to plan, monitor, and evaluate their reading processes. These strategies can be categorized into three distinct types: (1) global reading strategies, (2) problem-solving reading strategies, and (3) support reading strategies. Such strategies enable student teachers to reflect on their reading processes, navigate texts effectively, assess their understanding, identify difficulties, and adjust their approaches as necessary. This study emphasizes the importance of metacognitive strategies in reading and highlights the necessity of integrating strategic and reflective reading practices for EFL student teachers. This integration not only fosters their development as proficient readers but also equips them to teach these strategies effectively to their future students.

Keywords: English as a foreign language (EFL), student teachers, metacognitive strategies, reading comprehension, reading process

Introduction

Global citizens must cultivate 21st-century skills to facilitate lifelong learning, adapt to challenges, and respond effectively to ongoing changes. One of the fundamental skills in this global era is the ability to engage critically with various forms of written content. Proficient reading and the effective use of English-language information resources are essential for navigating the complexities of the information society (International Bureau of Education-UNESCO, 2020). This assertion underscores the significance of reading comprehension as a critical competency for English language learners. Mastering this skill equips students with vital knowledge from primary sources. Through reading, they can acquire the necessary information and gain deeper insights into various subjects.

Therefore, they must be prepared to navigate the complexities of the modern world, where reading comprehension constitutes a critical component of that preparation.

Reading serves as one of the primary sources of knowledge that individuals require, complemented by additional detailed information (Harmer, 2007). In academic contexts, reading skills significantly influence an individual's performance, particularly in higher education, where the ability to critique and discuss academic texts is essential for success. Reading is a multifaceted process that involves the interaction of cognitive and metacognitive strategies, enabling learners to achieve a deeper understanding of texts. This cognitive operation encompasses interactions among readers, writers, texts, contexts, and purposes. Successful reading requires the integration of textual information with the reader's background knowledge to construct meaning. Additionally, this process is influenced by the reader's mindset, emotions, beliefs, and text-processing strategies (Baker, 2002; Hedgcock & Ferris, 2009; Moreillon, 2007). In conclusion, reading can be characterized as a complex performance that necessitates a variety of skills and strategies to navigate effectively. Enhancing reading abilities should be a priority in educational settings, ensuring that students are equipped to engage with and comprehend the diverse range of texts they encounter.

Research indicates that effective reading strategies are crucial for achieving reading success (Ghaith & El-Sanyoura, 2019; Guo, 2018; Sariçoban & Behjoo, 2017). In the realm of English as a Foreign Language (EFL) reading, the application of metacognitive strategies has gained significant recognition as a vital component for enhancing reading comprehension (Duong & Nguyen, 2022; Rahmat & Jincheng, 2022; Rastegar et al., 2017; Rochmawati et al., 2022; Safitri, 2016; Syahidah et al., 2023; Tedjo et al., 2022). These studies collectively underscore the essential role of metacognition in the reading process, demonstrating that metacognitive reading strategies significantly improve reading achievement. Learners who actively utilize these strategies not only attain higher levels of comprehension but also develop more positive attitudes toward reading. Conversely, EFL learners who employ ineffective reading strategies encounter difficulties in their comprehension (Al-Mekhlafi, 2018). Research emphasizes the importance of adopting effective metacognitive strategies to facilitate better comprehension outcomes for EFL learners. Equipping students with metacognitive skills will not only improve their reading achievement but also empower them to become more autonomous learners.

Metacognitive reading strategies encompass a range of practices that enable readers to plan, monitor, and evaluate their comprehension while reading (Phakiti, 2003). These strategies aim to enhance understanding by encouraging readers to reflect on their reading processes, assess their comprehension, and adjust their approaches as needed. Strategic readers possess a clear awareness of their reading objectives and employ appropriate techniques to improve their understanding of texts. Metacognition involves an internal dialogue between readers and the material with which they engage, making it essential to integrate these strategies into curricula across various disciplines (Bransford et al., 2000). Educators should focus on fostering their students' metacognitive awareness and actively work to improve it (Kartika & Firmansyah, 2019). By engaging with texts and utilizing self-regulation techniques, students can enhance their comprehension and performance in reading activities.

Understanding how students perceive and employ metacognitive strategies is essential, as the ability to reflect on their thought processes while engaging with texts is a critical skill. This capability significantly enhances the educational experience, underscoring the continued relevance of studying metacognitive reading techniques in contemporary settings (Alrabah & Wu, 2018; Klimova et al., 2024). The exploration of metacognitive reading strategies has gained considerable attention in recent years, particularly in the context of EFL education. However, several research gaps remain in this area,

such as a limited focus on EFL student teachers, particularly in Islamic educational settings. Therefore, this study concentrates on student teachers at an Islamic university in Palembang, South Sumatera, Indonesia, who are being prepared to become future educators. By examining their experiences, this research can contribute valuable insights into the effectiveness of metacognitive strategies in fostering reading success.

A preliminary investigation conducted by researchers revealed that some students are achieving satisfactory reading results, demonstrating an adequate understanding of reading strategies. This finding suggests that these students are becoming autonomous and effective readers by employing metacognitive reading strategies. Consequently, the researchers believe it is essential to explore the students' perspectives on the various metacognitive strategies they utilize to enhance their reading comprehension. Understanding how these future educators perceive and apply metacognitive strategies can inform teacher training programs and improve pedagogical practices. Through this inquiry, researchers can gain valuable insights into how these students perceive and implement these strategies. This will enable the identification of which strategies are regarded as the most effective in practice. Ultimately, this may reveal potential feedback for improving instructional practices to develop reading skills.

Based on the explanation provided above, this study aims to gather insights from student teachers regarding their experiences with metacognitive strategies in their reading practices. The primary research question guiding this inquiry is: "How do student teachers perceive their own reading processes and the strategies they employ to enhance reading comprehension?" By collecting insights from student teachers about their experiences with metacognitive strategies in their reading practices, this study seeks to address the primary research question: "How do student teachers perceive their reading processes and the strategies they employ to enhance reading comprehension?" By capturing their personal experiences and reflections, the research aims to provide a comprehensive understanding of how metacognitive reading strategies are utilized in practice. The significance of this research lies in its potential to inform the development of more effective reading instruction. By understanding how student teachers conceptualize and apply metacognitive strategies, researchers can identify best practices and areas for improvement in reading instruction.

Literature Review

Reading process

Reading skills development involves understanding the process of reading, which consists of three phases: pre-reading, during reading, and post-reading (Hudson, 2007; Kinberg, 2007). Pre-reading involves connecting new information with existing knowledge, constructing schemas, and using vocabulary to manage and remember information. During the reading phase, readers actively process the text, constructing meaning and adjusting their understanding. Post-reading strategies help readers apply their understanding in different contexts, making the material relevant to their lives and integrating it into their everyday experiences (Kinberg, 2007). In the pre-reading phase, readers must construct a schema, or mental representation, to help manage and organize this prior knowledge. Established schemas can assist readers in managing and remembering the information they encounter. During the reading phase, readers actively process the text. When encountering new information, they construct meaning and adjust their understanding based on this information. Thus, post-reading strategies are also vital because finishing a reading does not necessarily mean that one has fully

comprehended the material. Therefore, activities designed for after reading aim to help individuals apply their understanding in different contexts. These activities not only assist readers in monitoring their comprehension and retaining what they have read but also make the material relevant to their lives and enable them to apply it practically.

Reading comprehension

Reading is an active skill and involves two interconnected processes: word recognition and comprehension in which the reader use thought and language to get meaning of the text (Brown, 2004; Harmer, 2007; McNamara, 2007). It requires the execution of interdependent tasks, meaning that readers must not only identify the words in the text but also infer their meanings from the content. Word recognition refers to the process of perceiving how written symbols correspond to one's spoken language. Comprehension, on the other hand, is an interactive and deliberate process characterized by the generation of meaning through the integration of prior knowledge, experiences, textual information, and one's attitude toward the material (Hill, 2011). This process of reading involves the use of different skills and strategies (Weir, 2005). It encompasses understanding words, sentences, and connected narratives and is accomplished when the reader successfully extracts valuable insights from a text and constructs that knowledge into their own understanding. Thus, reading comprehension is defined as an intricate cognitive skill that enables individuals to derive meaning and make connections from what they read.

Metacognition in learning

Metacognition, defined as the awareness and understanding of one's own thought processes, encompasses both knowledge of cognitive functions and the regulation of these processes during learning. It is a process of thinking, understanding, and controlling one's own learning (Babayigit, 2019). It includes activities like preparing a strategy for a learning task, tracking understanding, and assessing one's own development (Chauhan & Singh, 2014). This process occurs when readers are aware of their own thought process and can control that process. It can be seen that metacognition is a thought process that is carried out by a person consciously to understand, monitor, and control of their cognitive processes. Metacognitive strategies refer to the processes through which individuals gain awareness and control over their own learning. These strategies encompass two major components: metacognitive knowledge, which includes beliefs about oneself as a learner and the nature of the tasks at hand, and metacognitive regulation, which involves the monitoring and control of cognitive activities during learning. By examining these components in the context of English studies, the aim is to identify how students utilize metacognitive strategies to enhance their academic performance and overall learning experience.

Metacognitive strategies and reading comprehension

In the context of reading, the applications that enable individuals to control or direct the reading process are known as metacognitive strategies (Phakiti, 2003). Metacognitive strategies can be classified into three primary categories: planning, monitoring, and evaluating (Baker & Brown, 1984). Planning involves pre-reading strategies such as predicting content, setting goals, and activating prior knowledge. Monitoring refers to self-regulation during the reading process, which includes asking

oneself whether comprehension is being achieved and adjusting strategies as necessary. Evaluating assesses the effectiveness of the strategies employed and the overall understanding of the text. Readers can utilize metacognitive tactics to enhance their awareness of the reading process and to achieve their reading objectives. They employ mental processes to interpret the meaning of the texts as they read. Readers who are cognizant of their metacognitive abilities are better positioned to develop effective reading strategies at each stage of the critical reading process (Bozgun & Can, 2023; Cogmen & Saracaloglu, 2009; Ozen & Durkan, 2016; Souheylaa & Bouali, 2022).

Metacognitive awareness of reading strategies has been the subject of extensive research by numerous scholars. To assess this awareness among ESL/EFL learners, an instrument was developed specifically for this purpose. Notably, one of the most widely used tools is the Survey of Reading Strategies (SORS), which was devised by Mokhtari and Sheorey (2002). SORS is an instrument that has garnered attention in the field of language education, particularly among ESL/EFL learners. This tool serves as a comprehensive assessment of students' metacognitive awareness concerning their reading strategies. With its thirty-item format, SORS categorizes responses into three distinct types of reading strategies: global reading strategies (GLOB), problem-solving strategies (PROB), and support reading strategies (SUP) (Mokhtari & Reichard, 2002; Mokhtari et al., 2018). Each category plays a pivotal role in developing learners' reading proficiency (Williams, 2019) and ultimately enhances their overall language acquisition. GLOB refer to the overarching approaches that learners employ to comprehend a text. These strategies include planning before reading, setting a purpose for reading, and self-monitoring comprehension as one progresses through the text. For ESL/EFL learners, being aware of these global strategies is crucial. They help learners activate their prior knowledge and contextual understanding, which is particularly important when navigating texts that may contain unfamiliar cultural references or idiomatic expressions. By fostering awareness and utilization of GLOB strategies, educators can encourage learners to adopt a more proactive stance towards reading, thereby enhancing their comprehension and retention of information. In contrast to GLOB, PROB are specific techniques that readers utilize in the face of difficulties encountered during reading. These might include re-reading challenging passages, using context clues for unfamiliar vocabulary, or summarizing information to clarify understanding. For ESL/EFL learners, the ability to effectively engage with PROB strategies can significantly mitigate frustration and anxiety often associated with reading in a second language. Moreover, the SORS tool allows educators to identify areas where learners may require additional support in problem-solving, enabling targeted interventions that can bolster their confidence and competence in reading tasks. SUP encompass the resources and tools that learners employ to aid their reading process. This may include using dictionaries, taking notes, or discussing texts with peers. In the context of ESL/EFL learning, the ability to utilize SUP strategies effectively can enhance the reading experience and promote a deeper understanding of the material.

Methodology

Research design and approach of the study

To achieve the objectives of this research, the researchers employed a qualitative case study design. This approach emphasizes the examination of social phenomena and enables individuals to express their feelings and perspectives authentically (Yin, 2014; Lodico et al., 2010). The qualitative case study design is particularly effective for exploring student teachers' opinions on their use of metacognitive strategies during the reading process. By focusing on individual narratives, researchers

can collect rich, detailed data that captures the complexities of the participants' thoughts and feelings. The data collected through this qualitative approach can reveal patterns and themes that may not be evident through quantitative methods. This qualitative case study design allows for an in-depth exploration of the participants' perspectives, as it prioritizes their voices and experiences. This method fosters a deeper understanding of how student teachers perceive and implement metacognitive strategies in their reading practices, yielding valuable insights into their cognitive processes.

Research site and participants

This study was conducted within the English Education program at an Islamic university in Palembang, South Sumatra, Indonesia. Qualitative research emphasizes purposeful sampling to identify and select information from specific cases (Palinkas et al., 2015). The participants in this study comprised six fourth-semester student teachers majoring in English Education. They were selected through purposive sampling based on specific criteria aligned with the research objectives (Creswell, 2012). This approach ensured that the study accurately represented the experiences of students engaged in metacognitive practices, as well as how they perceive and implement metacognitive strategies in reading. The selected participants were enrolled in a reading class where metacognitive strategies were integrated into the instructional methods. They demonstrated satisfactory reading performance and possessed a solid understanding of their reading strategies. Additionally, they expressed a keen interest in applying these strategies. According to Jeevaratnam and Stapa (2022), students with high reading proficiency tend to utilize more metacognitive reading strategies compared to their lower-proficiency counterparts. Therefore, it would be beneficial to explore the specific types of metacognitive strategies employed by the students and evaluate their effectiveness in enhancing reading comprehension.

Data collection and analysis

Researchers conducted semi-structured interviews to gather comprehensive data on the perspectives of student teachers regarding their reading processes and the strategies they employ. As noted by Canals (2017), semi-structured interviews afford the interviewer the flexibility to add questions and seek clarification. After obtaining informed consent, the researchers conducted individual interviews. We engaged in direct, face-to-face conversations to collect information and opinions, aiming to gain insight into the participants' experiences and reflections on their reading strategies, as well as the impact of these strategies on their reading comprehension. This interview format allowed participants to elaborate on their thoughts and insights regarding their metacognitive practices. All interviews were audio recorded and subsequently transcribed verbatim for further analysis. As part of a member-checking procedure, participants were asked to review the transcripts or summaries of their interviews. This also ensured that the participants felt accurately represented.

The research data were analyzed using thematic analysis, which enabled the researchers to identify significant and compelling patterns within the dataset (Clarke & Braun, 2016). This method involves several key steps: familiarization with the data, coding, theme generation, review, and definition. In the familiarization stage, researchers engaged in reading through the data multiple times to gain a comprehensive understanding of its content and context. This process included note-taking, highlighting key phrases, and creating initial summaries to identify patterns and significant points conveyed by the participants. Once the familiarization process was complete, the next step was coding,

which entailed organizing the data into coherent categories. The subsequent stage involved theme generation. Researchers identified broader patterns or themes that emerged from the coded data by analyzing similarities and connections. Researchers categorized the reading strategies employed by the participants into three distinct categories: Global, Problem-Solving, and Support Reading Strategies, to illustrate how each facilitates reading comprehension and retention. Additionally, the researchers conducted a thorough review process to assess the identified themes, ensuring that they accurately captured the narratives and experiences of the participants. In the final stage, the researchers defined the themes by providing a comprehensive explanation of each one. In conclusion, by following this structured process, the researchers successfully captured the participants' metacognitive practices in EFL reading, supported by evidence (Braun & Clarke, 2006).

Results

Based on the data obtained from the interviews, student teachers employed various strategic practices in their EFL reading. They identified several metacognitive strategies that were beneficial for enhancing their reading comprehension and retention during the pre-reading, while-reading, and post-reading stages. The interviews revealed key themes, which can be categorized into three main types: (1) Global Reading Strategies, (2) Problem-Solving Reading Strategies, and (3) Support Reading Strategies. Their reflections on these strategies and their facilitation of reading comprehension are presented in Table 1 in this section.

Table 1. *Metacognitive practices in EFL reading*

Themes	Codes
Employing Global Reading Strategies	<ul style="list-style-type: none"> a. Glancing through headings/subheadings to get an overview b. Skimming the paragraphs to identify the topics/main ideas c. Scanning the text to locate specific information d. Determining reading purpose to filter information e. Asking questions to set focus and stimulate curiosity f. Checking the text content to set expectation g. Looking at visual illustrations/images to aid understanding h. Using typographical aids to identify key ideas i. Using context clues to guess the meanings of unfamiliar words j. Rereading the text to seek for clarity k. Drawing conclusion to make inference l. Connecting personal experiences to enhance comprehension
Employing Problem Solving Reading Strategies	<ul style="list-style-type: none"> a. Adjusting reading speed to assess understanding b. Pausing to make connections between ideas c. Paying more attention on certain section to grasp key concepts d. Searching for relevant information to connect ideas

Employing Support Reading Strategies	<ul style="list-style-type: none"> a. Creating conducive situations to concentrate on reading b. Underlining/highlighting keywords to enhance retention c. Using dictionary to find definitions and examples d. Taking notes to reinforce retention e. Reading aloud to remember certain information f. Summarizing to reinforces key concepts g. Translating the texts into Indonesian to clarify understanding h. Using graphic organizer/mind maps to organize information i. Using relevant references to enrich understanding j. Having peer discussions to check understanding/clarify doubts
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Global reading strategies

Global Reading Strategies encompass overarching approaches that students utilize to enhance their overall comprehension (Mokhtari & Reichard, 2002). Based on the data obtained from the interviews, most students reported that they utilized various strategies to enhance their understanding of the text. The skimming strategy is widely recognized and employed by students. They utilized this strategy due to the belief that it enhanced their efficiency in reading. This approach is effective for locating information and identifying the main ideas within a text. One student, T, stated, *"Before actually reading the text, I look at the title, headings, and subheadings to ascertain the content of the text."* Additionally, another student, Y, mentioned, *"I skim the text, especially when faced with tasks such as quizzes or answering questions, as it allows me to complete these tasks more quickly."* In certain instances, students may blend different strategies depending on their reading objectives. KH reported, *"When I seek to identify the topic of a text or the main idea of a paragraph, I typically read certain parts of the text. This enables me to quickly locate the main idea. Subsequently, I read in detail to find the answers to the questions."*

Most students determined their purpose for reading in order to gain a better understanding of the texts. As confirmed by AN, *"I set a specific goal for my reading; for example, when I read for specific information, I filter that information. I read the full text when I need to complete a reading assignment or prepare for a discussion."* Some students identified their purpose for reading based on their approach to the material. As stated by KH, *"First, I look at the questions, and then I locate the section in the text that contains the answer."* Determining the purpose of reading significantly enhances students' ability to respond to questions efficiently. Y confirmed this notion, stating, *"I often ask myself questions while reading, such as, 'What questions do I need to answer in this reading task?' This strategy helps me focus and pay closer attention while reading."* Similarly, students T and G emphasized that a clear reading purpose aids them in determining their approach to the text. T elaborated, *"When engaging with a textbook, my goal is to understand the materials, which requires concentrated focus. In contrast, when reading for entertainment, I adopt a more casual approach, without the need for intense concentration."* G echoed this sentiment, stating, *"The purpose of reading is crucial for me; if I read without a clear objective, I often end up disappointed."* These insights underscore the importance of establishing a reading purpose. By doing so, students can tailor their reading strategies to enhance comprehension and retention. The ability to differentiate between reading for information and reading for enjoyment is essential in navigating diverse texts effectively. Some students reported self-questioning is helpful to improve comprehension. By asking themselves questions, they could identify areas needing further exploration. This practice encourages active engagement with the text. Students A and T believed that analyzing the content of a text is the most efficient method for finding answers. Student A remarked,

"I check how the content of the text aligns with my purpose. For instance, if my goal is to find an answer, I search for a text that corresponds to what I seek. If the text does not provide the answer, I will look for it in another paragraph or consult additional references." Similarly, Student T stated, "I usually analyze the content of the texts before engaging deeply with them." In contrast, Student AN did not evaluate how the content of the text aligns with her reading purpose. She explained, "To save time, I read the text directly to identify the important elements within the reading material." The varied approaches adopted by Students A, T, and AN offer valuable insights into how individuals prioritize alignment with specific goals, while others may favor a more straightforward reading method. This diversity indicates that students employ distinct strategies when engaging with texts. Additionally, the practice of asking questions allows students to guide their reading before they engage more deeply with the material. By formulating questions, students can concentrate on particular information and cultivate an interest in thoroughly exploring the text. Student KH emphasized this point, stating, *"I ask myself questions to enhance my focus and stimulate my curiosity about the content."* This questioning practice not only aids in maintaining focus but also enhances students' analytical skills, enabling them to evaluate information more effectively.

Visual aids, such as graphs, charts, and images, along with typographical features like boldface, italics, and bullet points, play a significant role in helping students identify key concepts. These elements enhance both comprehension and retention of complex information. Most students' interest in the text was sparked by typographical aids. Their interest arose from the fact that various typographical props provided clues about the content of the text. As confirmed by Student Y, *"I am interested in reading words that are bolded, italicized, or underlined. I believe they carry significant meaning. I become curious about what is conveyed by sentences or words presented in this manner."* Additionally, Student A remarked, *"When scanning a text, differently displayed elements capture our attention and help us focus, especially when our goal is to identify important information. Sometimes, words formatted in this way possess unique meanings."* The students expressed that they find certain features beneficial when engaging with texts. One student, KH, stated, *"I read a text on population density and demographics accompanied by a scale or diagram that succinctly explains the content. In my opinion, this supplementary material serves to clarify the text."* Another student, A, echoed this sentiment, saying, *"I sometimes encounter texts with tables. I find that they enhance my understanding and validate the information we have previously read."* Another student, G, remarked, *"I find important ideas through images and boldface in the text."* This highlights the importance of visual and typographical elements in emphasizing critical information.

Another effective strategy employed by students is the use of context clues combined with the practice of rereading. Together, these techniques promote smoother reading and deeper comprehension. Another useful strategy employed by students involves the use of context clues and the practice of rereading, which together facilitate deeper comprehension. Student A remarked, *"When I encounter unfamiliar words, I sometimes guess their meanings by referring to other words and phrases in the sentences."* When students encountered idioms, they often attempted to deduce the meanings before consulting additional resources. One student articulated this approach by stating, *"I usually try to guess the words first, and then I check in the book or dictionary to see if my guess is correct. If I don't double-check, I might misinterpret the words."* Another student corroborated this method, saying, *"Generally, I will immediately seek to understand the meaning of the sentence. If it is an idiom, I will Google it. If it is a scientific term, I will search for it in the subsequent text."* This highlights how context clues can assist in decoding unfamiliar vocabulary. When faced with unclear information, some students instinctively reread the text and consult additional references to clarify their understanding. Student G noted, *"I repeat the unclear word because I lose information and do not know what the subsequent part of the text addresses."* Similarly, student A remarked, *"Typically, when I come across an unclear term, I underline or highlight it to remind myself to look it up later. I found that there is an explanation*

in the index section, which allows me to refer to the definition there.” Student Y also shared, “I reread the text to catch details I may have missed.” This approach underscores the value of rereading, particularly when engaging with complex texts. Furthermore, some students indicated that understanding the text involves drawing conclusions and making inferences based on the information presented. Relating the content to personal experiences can significantly enhance comprehension as reading is the process of combining information from text with background knowledge of the reader to construct meaning (Anderson, 2003). By creating a meaningful connection between their own lives and the material, students can deepen their understanding and retention of the texts.

Problem solving reading strategies

Problem-solving reading strategies are employed when students encounter difficulties during reading (Mokhtari & Reichard, 2002). Our research indicates that students can adjust their reading speed based on the material and its perceived importance. Most students read slowly and carefully when they identify certain parts of the text as significant, while others adopt a similar approach when engaging with journal articles. Student A stated, “I read slowly when I want to find specific important information. The faster I read, the more I may miss valuable details.” Additionally, Student AN mentioned, “I usually need to read slowly and carefully when I read journal articles because I don’t want to overlook any crucial information. When I read for entertainment, I tend to read slowly. However, if I am gathering information to answer specific questions, I read at a faster pace.” They adjust also their reading rates according to varying reading conditions. As noted by Student Y, “It depends on the context I am in. When I am reading to prepare for a quiz, I certainly need to read quickly; however, if I am reading for pleasure, I do not feel the need to rush my reading; instead, I prefer to read slowly and savor the experience.”

Some students organized the paragraphs around specific or key topics to enhance their comprehension of the text. For instance, student KH stated, “I consistently separate paragraphs based on specific topics. When I am seeking information related to a biography, I distinctly divide paragraphs containing biographical details from those that encompass other information.” In addition, they adopted skimming strategies to identify the topic discussed in each paragraph. In contrast, other students argued that they could effectively identify the topic per paragraph only after thoroughly reading the entire text. Student G affirmed, “I believe I can identify the topic per paragraph because I have read the entire text in advance.” This diverse approach to paragraph organization highlights the varying strategies students employ to enhance their understanding. While some students rely on skimming to identify key topics quickly, others prefer a comprehensive reading before making decisions about topic separation. This difference in strategies may reflect individual learning styles and preferences.

Support reading strategies

Support Reading Strategies refer to external aids that facilitate the reading process (Mokhtari & Reichard, 2002; Ghaith & El-Sanyoura, 2019; Lin, 2019). Researchers found that most students demonstrated an understanding of how to create a comfortable reading environment and adjust their reading rates according to varying reading conditions. In this context, all the students concur that they feel at ease when conditions are favorable, such as in a quiet classroom or within a library. As articulated by Student AN, “When the environment is tranquil, it usually enables me to focus on reading. During such moments, it becomes easy for me to concentrate on the material I am engaging with.”

Most students attempt to retain information by underlining key words. As Student AN confirmed, *"Typically, when I am trying to remember an important word or sentence in the text, I write or record the sentence in my notebook. To save time, I usually take a photo of the sentences."* In addition, some students believe that the volume of their voice while reading affects their comprehension. As stated by Student A, *"I usually raise my voice when I try to understand. Then, I re-read the text at a louder volume. It turns out that when I do this, something sticks in my mind."* However, other students express differing opinions. For example, Student G remarked, *"Personally, it affects me. I think reading aloud disturbs my concentration, so I rarely do it."* When students encounter intriguing words during their reading, they take the initiative to note them down by reading and writing the relevant text. As stated by student KH, *"When I find an interesting word, I mark it first."* Following this, some students write down the intriguing words, as expressed by student T: *"If I find a word that interests me, I usually pause and write it in my notebook so that I can recall it later."* Additionally, other students, upon discovering an interesting word, look up its meaning. Student Y elaborates, *"Because it is the first time I have seen or read the sentence, I feel compelled to understand its meaning. Therefore, I look up the definitions of the words in the dictionary."*

Several students demonstrated effective reading strategies by focusing on key ideas through techniques such as underlining key points and using highlighters. One student, KH, explained, *"I underline sentences or mark them with a highlighter so that when I re-read the text, I can easily grasp the essential information."* In contrast, other students examined the reasons behind the text's significance. Student Y commented, *"I actively look for important information in the text and note why I consider it significant. However, I prefer to finish what I am reading first, as this helps me avoid gathering incomplete information."* This approach underscores the importance of thorough comprehension before making judgments about the text. Additionally, students sought information from relevant external sources to enhance their understanding. Student T noted, *"To deepen my grasp of the material, I need to reference other texts or find books that align with the information I am seeking."* This indicates a proactive approach to learning, as the student recognizes the value of multiple perspectives and resources. Student KH further elaborated on the necessity of supplementary materials, stating, *"I require additional resources to fully understand the content."* This highlights a common theme among the students: the recognition that a singular source may not provide a complete picture, and thus, supplementary materials can enhance comprehension.

Some students employed a summarization strategy while reading specific passages. Summarization is a powerful tool for reinforcing essential ideas. By condensing information into concise summaries, students can focus on the main points. This process not only aids retention but also helps identify key concepts within the material. Student G elaborated on this approach, stating, *"I write the main points to remember the important key concepts discussed in the texts."* This highlights the effectiveness of summarization in enhancing understanding and recall. In addition, some students feel compelled to translate texts into Indonesian to improve comprehension. Student A expressed this sentiment, saying, *"If I cannot find a translation, I will likely seek it out or translate it myself. If I do not engage in this process, I will struggle to understand and may miss critical information."* This indicates that translation can be a crucial strategy for students who encounter language barriers, enabling them to grasp the material more effectively.

Some students utilized graphic organizers and mind maps to visually structure information, categorize concepts, and systematically relate various ideas. As student AN expressed, *"I often organize information from the texts to make it easier for me to comprehend the relationships between ideas."* Student G also noted, *"Putting information into mind maps helps me to recall important points."* Additionally, participating in discussions with peers is an effective method for assessing understanding and clarifying doubts. Student T remarked, *"At times, I need to re-read sections and exchange ideas and perspectives with*

my friends to check my understanding, which helps me feel more confident in my comprehension.” These strategies emphasize the importance of visual tools and collaborative learning in enhancing students' comprehension and retention of information. By organizing information visually, students can better understand the complex relationships between ideas.

Discussion

The reflections of student teachers on their metacognitive practices, captured in this study, illustrate the diverse range of strategies employed by these educators in their English as a Foreign Language (EFL) reading. This section discusses the metacognitive practices of student teachers in EFL reading, outlining the pedagogical implications and addressing the limitations of the study. Furthermore, this section highlights the significance of metacognitive practices among student teachers in EFL reading, discusses the pedagogical implications for EFL teaching and teacher training programs, and outlines the limitations of the current study.

Metacognitive practices in EFL reading

The findings indicate that the student teachers' approaches to EFL reading are systematic and intentional, with a strong emphasis on comprehension and retention. They utilize various strategies to enhance their understanding of texts. Their comprehension is significantly influenced by their ability to implement these strategies, which serve as essential sub-skills of reading (Hedgcock & Ferris, 2009; McDonough & Shaw, 2005; Mikulecky & Jeffries, 2004; Weir, 2005). The metacognitive reading practices of student teachers can be categorized into three main types: (1) Global Reading Strategies, (2) Problem-Solving Reading Strategies, and (3) Support Reading Strategies (Mokhtari & Reichard, 2002; Mokhtari et al., 2018). The intentional use of these metacognitive strategies demonstrates the student teachers' awareness of their cognitive processes while reading. By reflecting on their practices, they can identify which strategies are most effective for their learning and adapt their approaches accordingly.

Student teachers employed various general reading strategies to prepare for their reading and comprehend the main ideas and structure of the text. Techniques such as skimming, scanning, and previewing were frequently utilized. This practice aligns with the findings of Mokhtari and Reichard (2002), who suggest that global reading strategies serve as overarching techniques that students use to prepare for their reading tasks. For instance, the student teachers had already established the purpose of their reading, which is a critical factor influencing their choice of strategy. Identifying the purpose of reading is essential, as it allows the reader to determine which information to retain or discard as necessary (Brown, 2007). Some students employed scanning primarily for entertainment purposes, while others used skimming to quickly find answers to quiz questions. Most students consistently verified whether the text met their reading objectives, demonstrating their engagement with the material. Their interest in the features of the text reflects a deeper understanding of effective reading strategies. According to Mokhtari and Reichard (2002), these strategies can be categorized as generalized, intentional reading strategies that enhance comprehension and retention of information.

Problem-solving reading strategies are employed when readers encounter difficulties. Student teachers in this study reported that re-reading, summarizing, and questioning enabled them to navigate texts more effectively. The students adjusted their reading speed based on their reading purpose. For example, when they read for a quiz, they attempted to read as quickly as possible to answer the

questions accurately. Another important factor is creating conducive situations that foster a comfortable reading experience, such as a quiet and relaxed environment. Adjusting the reading rate is another indicator that they could apply to enhance reading comprehension. Most of them felt the need to modify their reading rate when they were under time pressure. Typographical aids are among the most interesting tools for the students. With typographical aids, they believe they have grasped the essence of the text due to its varied presentation. They read and discover interesting words that help most students retain the information in their memory by using various steps, such as underlining the word, marking the word, and writing the word in their notebook. The next step is to re-read the text when unclear or important information is encountered. The final step involves identifying idiomatic expressions or scientific terminology. Many readers often find themselves questioning the meanings of the words used in the text. Some may consult a friend or seek definitions online or through related resources. According to Mokhtari and Reichard (2002), the problem-solving strategies employed when reading challenging passages consist of adjusting reading speed, guessing the meanings of unfamiliar words, and re-reading the text for improved understanding. Incorporating these problem-solving strategies can significantly enhance a reader's ability to comprehend and engage with texts. By actively adjusting reading speeds, understanding personal preferences, accommodating time pressures, utilizing typographical aids, taking notes, re-reading, consulting references, and inferring meanings, learners can effectively develop their reading skills.

Support Reading Strategies include the use of supplementary materials and tools, such as dictionaries, glossaries, and visual aids, which can enhance understanding and retention of information. The first indicator is that some students tried to remember information by underlining the words and taking notes, but when they needed to save time, they took a picture of the words. The next indicator is the volume of voice in reading. When students found important text, they paid attention to the text by underlining, using a highlighter, or marking the text. When they read the information and showed interest in it, they tried to gain knowledge about the information. Some students looked for relevant sources to add to their knowledge. When students have trouble knowing or inferring, they try to go back and forth in the text. Most of the students felt satisfied with their reading comprehension, but when they feel their knowledge is not enough, they need to re-read. The next indicator is translation from English to Indonesian. Most of the students believed that with this step, their comprehension would be better, and they would understand the text better. Support reading strategies indicate the reader's ability to use techniques or tools to better understand the text. They include taking notes while reading, underlining or highlighting information in the text, using reference materials, paraphrasing for better understanding, going back and forth in the text, asking oneself questions, translating from English to Indonesian.

One interesting reading strategy employed by students is reading aloud when engaging with difficult texts. Some students believe that the volume of their voice affects their reading comprehension, particularly when they attempt to remember specific words. Conversely, other students argue that the volume of their voice does not impact their comprehension, as they prefer to read in silence. This practice of reading aloud contrasts with Brown's (2007) recommendations, which emphasize the necessity of training students in various reading strategies, notably silent reading, to enhance reading efficiency and speed. Silent reading involves several key principles that students should be taught, including the understanding that it is not essential to pronounce each word as it is read. This technique encourages readers to process information more fluidly and to focus on comprehension rather than on the pronunciation of individual words. In contrast, while reading aloud can be beneficial in certain contexts, especially for clarifying complex ideas, it may also hinder

comprehension in others. Reading aloud may not always be the most efficient strategy for all types of reading material. Therefore, teachers should help students identify when to use each technique effectively, balancing the benefits of both reading aloud and silent reading.

Pedagogical implication

Exploring the role of metacognitive strategies in reading comprehension among the students is an essential endeavor that can yield significant pedagogical implications. Student teachers employ a variety of strategies at different stages of the reading process: pre-reading, during-reading, and post-reading. Each of these strategies plays a vital role in enhancing their understanding and retention of texts. The students' varied strategies also reflect their individual learning preferences. Some may benefit from visual aids like highlighters, while others thrive on analytical methods that involve deeper engagement with the material. Teachers should consider these differences when designing reading assignments and materials, ensuring that diverse strategies are accommodated. The approaches demonstrated by the students reveal a thoughtful engagement with reading materials. The diversity of strategies employed by the students serves as a reminder of the importance of adaptability in learning, allowing individuals to find the most effective means of engaging with complex texts.

Some of the student teachers reported satisfaction with their comprehension of the material. Student KH stated, *"Through various strategies that I employ, such as re-reading or annotating the text, I feel a sense of fulfillment when I engage with it."* However, a few students expressed that they did not feel entirely satisfied with their reading comprehension. Despite the positive experiences shared by many students, it is important to address the concerns of those who felt less satisfied with their reading comprehension. Therefore, reading instruction should include these strategies proposed by the experts (Hedgcock & Ferris, 2009; McDonough & Shaw, 2005; Mikulecky & Jeffries, 2004; Weir, 2005) are very important taught. Therefore, a number of reading strategies has become a major consideration in developing student reading skills. Through various exercises and tasks adequate reading, both at the stage of pre-reading activities, when reading, and after reading, students are expected to implement these strategies automatically. Application of appropriate reading strategies to not only beneficial to improve students' ability to understand the text, but also to increase efficiency in reading (Duong & Nguyen, 2022; Rahmat & Jincheng, 2022; Rastegar et al., 2017; Rochmawati et al., 2022; Safitri, 2016; Syahidah et al., 2023; Tedjo et al., 2022).

The integration of metacognitive strategies within teacher training programs is crucial. Teachers should provide explicit instruction on these strategies, demonstrating their application in various reading contexts. Providing explicit instruction on how to use metacognitive strategies, along with opportunities for practice and reflection, can empower student teachers to become more effective readers. Strategic reading experiences and reflective practices can further enhance student teachers' metacognitive skills. By equipping future educators with the tools to navigate their reading processes, they can subsequently impart these skills to their future students. By fostering an awareness of their cognitive processes, these future educators can navigate the complexities of reading in a foreign language more effectively. As they develop these skills, they not only improve their understanding but also prepare to instill similar strategies in their own students, thereby contributing to a cycle of effective learning in EFL classrooms.

Limitation of the study

This section discusses the inherent constraints of the study regarding its scope and the implications of its findings. The limitations arise from both contextual and methodological issues. The focus on EFL student teachers at a specific Islamic university in Palembang, South Sumatra, Indonesia, indicates that the insights gained are contextually bound. Data collection was conducted through semi-structured interviews with a limited number of participants, which restricts the breadth and depth of the insights obtained. Although the insights gained from these interviews are valuable, they may not encompass the diverse range of metacognitive strategies and reading processes present within a larger population. Consequently, this study may not capture the full spectrum of experiences and perceptions among EFL student teachers. Furthermore, the researchers' interpretations primarily rely on the participants' reflections, which are inherently shaped by their individual perspectives. Consequently, future research endeavors should address these limitations by incorporating a larger and more diverse sample, employing triangulation methods for data collection, and exploring various educational contexts. Additionally, future studies would benefit from including a more extensive and varied participant group to enhance the richness of the data. It would also be valuable to examine how factors such as personality traits, learning styles, and previous experiences influence the metacognitive strategies utilized to capture the full spectrum of experiences and perceptions among EFL student teachers.

Conclusion and Recommendations/Implications

Student teachers employed various strategies in English as a Foreign Language (EFL) reading, which can be categorized into three main types: (1) Global Reading Strategies, (2) Problem-Solving Reading Strategies, and (3) Support Reading Strategies. They recognized these strategies as essential tools for improving their reading comprehension and retention. In light of these insights, it is crucial to incorporate metacognitive strategies into reading instruction. Ongoing support and practice in employing these strategies can lead to enhanced reading outcomes. Regular practice and peer collaboration can provide student teachers with opportunities to share experiences and refine their strategic approaches to EFL reading.

The qualitative insights gathered from the six EFL student teachers provide a strong foundation for further research into metacognitive strategies in reading. Continued research in this area is paramount, as it can lead to informed and adaptive strategies that address the diverse needs of learners in today's educational landscape, fostering their development into autonomous and effective readers. We suggest that other researchers conduct similar investigations at different educational levels, involving a greater number of participants across various educational contexts. Furthermore, it is recommended that future research explore the long-term impact of these metacognitive strategies on reading performance. Additionally, future studies could examine how factors such as personality traits, learning styles, and previous experiences influence the implementation of metacognitive strategies in EFL reading.

Disclosure statement

No potential conflict of interest was reported by the authors.

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