

THE IMPLEMENTATION OF METACOGNITIVE STRATEGIES IN SEMINARIANS' ONLINE READING ACTIVITIES

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ABSTRACT

The article explores the role of metacognitive strategies in improving online reading performance among seminarians. With the rise of digital technology and the increasing reliance on online resources, it is crucial to equip seminarians with efficient metacognitive tools to enhance their understanding, analytical thinking, and overall educational journey. The study aims to identify specific metacognitive strategies that seminarians implement to improve their online reading skills. The study found that seminarians were aware of metacognitive strategies, with a high percentage using planning, monitoring, and evaluation strategies in reading. Regardless, metacognitive strategy instruction is widespread among seminaries and has been successfully implemented, providing an effective alternative for teaching reading comprehension skills at the senior high school level. The study suggests practical ways for students to build their self-regulated learning skills, particularly in reading.

Keywords: *metacognitive, online reading, seminarians*

INTRODUCTION

The transformation from behaviorism to cognitivism in the mid-1970s due to the reinforcement of mind and brain functionality has accommodated the genesis of the cognitivism approach in language learning (Bolhuis, Crain, & Roberts, 2023). Despite some criticisms toward the dominance of cognition in language learning, such as delegitimizing the interactional functionality of language learning, the cognitive approach has sparked enormous light on how we understand the relationship between the brain/mind and the language acquisition process in the language learning context. Cognition then emerges as a crucial factor influencing linguistic comprehensibility, including receptive skills such as reading. This era has informed how we understand “how humans process, organize, and store incoming information in memory” (Dole., et al., 2009: p.347) expressly. On the other hand, it has also stimulated the profound question of how humans develop higher-order thinking skills, or in other words, metacognition awareness.

In reading, cognitive strategy bridges the development of critical cognition, more likely described as metacognition, a higher-order critical reading skill employing cognition as the fundamental strategy to teach reading comprehension. Flavel (1979) described metacognition as knowledge of cognition and claimed that it has a critical characteristic embedded into it, which is self-regulated learning. This monitoring process aids

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metacognition development. Moreover, it is vital to review the basic tenets of the relationship between metacognition and reading comprehension when applying the reading comprehension strategy. Adopting Flavel model of metacognition, Brown and Baker (1980; 1984) reconceptualized metacognition in reading into two parts: knowledge of cognition and regulation of cognition, where the prior means readers' ability to recognize their cognition resources and reading tasks, while the latter implies competency to reevaluate readers' self-paced reading awareness. Secondly, metacognition in reading strategy aligns with controlling metacognition awareness, such as self-regulation and executive functioning. To some degree, these two constructive notions are influenced and dependable as systematic variables influencing comprehensibility in reading (Baker & Beall, 2009). While self-regulation is related to intrinsic factors such as the motivation of the learners and controlling factors that engage learners in reading, executive function can be found in ordinary reading activities such as designing, monitoring, and error correction. These two controlling tenets then influence some empirical topics in metacognition research, such as processes involving external variables that highly influence reading performance, such as motivation and self-efficacy (Baker & Beall, 2009).

Using a method in data analysis, the effectiveness of metacognition in reading has been an essential proxy for understanding reading comprehension. More specifically, it has led the path for further research of metacognition awareness in reading. Earlier research on metacognition explores metacognitive knowledge among children, employing comparative analysis through questionnaires, interviews, and classroom reports. The primary subject was investigating variations of students' metaknowledge (Myers & Paris, 1978a; 1981b). This study depicts an informative prescription in the metacognition reading comparison study, such as, regarding metacognition development, younger children tend to know less about factors influencing their memory longevity compared to adult children grade 3 and above. Nonetheless, this child performs the process of preparing for more development appropriateness as they grow. Similar research was conducted to determine aging interference toward metacognition awareness (Forrest & Waller, 1980). The result of this study showed that aging influences cognitive development while simultaneously preparing for the development of metacognition awareness. While other studies reformulated experimental analysis by inserting errors in the text to engage the student in critical analysis when reading an error form of sentence (Baker, 1984), an attempt to cultivate metacognitive skills was fostered with the purpose of students assessing their comprehension toward the reading text (Baker & Zimlin, 1989).

Over the decades, some empirical research has been conducted on metacognition awareness depicted through reading activity. Those researchers are various in the sense of participants' background, such as a study by Kim and Cha (2015) with Korean University students (EFL context), a study of autism condition spectrum EFL children in Chile by the Cancino and Tomicic (2023), and a study of a student who is deaf and hard of hearing by Yan and Paul (2021). Another is the learning environment, such as online vs offline, by Chen and Catrombe (2015) among Georgia Tech students. The striking parallelism among those studies mentioned above is that the study participants are ungrouped in similar conditions where the students are organized in one targeted treatment, like the context of the seminarian explored in this study.

In contrast to the formation of a seminarian, which is treated under one condition and environments as covered in Ratio Fundamentalist (L' Osservatore Romano, 2016), there is an underlying pedagogical approach consistent with communal life. This approach shapes spirituality, behavior, and cognition through tight schedules, routines, and activities that resemble a collaborative life of living in the school and dormitory.

Furthermore, the inquiry about metacognition in reading has reached beyond the scope of intrinsic factors such as motivation and self-regulation/control. Likewise, it has explored how external factors influence metacognition awareness, such as affection and teacher-student collaboration in reading activities (Linda & Beall,

2009). Research on how motivation, self-control, affection, and teacher-student collaboration influence students' metacognition in reading is likely less represented in a collective-contemplative school system like seminarians. The pedagogical approach in Seminary is distinct from the typical education system. It is essential to highlight that seminarians are educated to develop their metacognitive awareness, which is evaluated based on four pillars of priesthood: human formation, spiritual formation, intellectual formation, and pastoral formation.

These four formation pillars then are embodied through contemplative and reflective habituality where for instance, the seminarians are equipped with the ability to reflect on their spiritual practice in their mundane activities, and this includes their ability to reflect on their spiritual journey through journaling and reading logs which is assumed this habitual consistency can influence their metacognition awareness in reading English text. Consequently, the premise mentioned above will likely influence seminarian metacognitive reading comprehension, which this study tries to observe and explain. Therefore, this study intended to explore the following questions:

1. What metacognitive strategies do seminarians use in online reading activities?
2. To what extent do metacognitive strategies improve reading comprehension as perceived by seminarians?

Metacognitive Reading Strategies

Metacognition is a crucial aspect of cognitive development and learning. It enables individuals to become more self-directed learners, capable of adapting and regulating their thought processes based on the demands of different tasks. According to Flavell (1979), metacognition can be comprehended as two distinct components: knowledge and cognition related to the cognitive processes and the activity of monitoring cognitive activities, also known as cognitive monitoring (p.196). Meanwhile, O'Malley and Chamot (1990) defined it as the understanding of cognition or the management of cognition (p.99).

Flavell (1979) further posited that cognitive monitoring encompasses four distinct types: metacognitive knowledge, experience, goals, and actions. Metacognitive knowledge encompasses various components, including tasks, techniques, and individuals, which are influential factors in attaining task objectives. Metacognitive experiences manifest when individuals employ their conscious cognitive processes while engaging in a cognitive activity, encompassing assessments and emotions before, during, or after the task. Goals serve as the underlying motivation for engaging in a cognitive task. Acts can be classified as cognitive or behavioral acts to accomplish specific objectives.

Metacognitive strategies are methods and strategies that are employed to control and improve someone's learning and thought processes. O'Malley and Chamot (1990) also stated that there are three phases: (1) planning, which entails establishing objectives, choosing strategies, and arranging resources. (2) monitoring is awareness of one's cognitive processes while performing a task. This includes confirming comprehension, checking areas of perplexity, and assessing progress (3) evaluating one's own learning and reasoning strategies. This involves analyzing the results of a task to determine what went well and what could be enhanced.

Anderson (2004, p.17) stated that metacognitive reading has five parts which are: (a) planning and preparing for good reading; (b) choosing when to use different reading strategies; (c) know how to track reading strategy use; (d) learn how to develop various reading strategies; and (e) assess the use of reading strategies. Meanwhile, according to Palincsar and Brown (1984, p.124), four essential reading strategies are commonly employed in metacognitive strategies: summarize, question, clarify, and predict. Additionally, Muhid et., al (2020) affirmed that metacognitive strategies had a positive effect on students' reading achievement. Therefore,

metacognitive strategies should be implemented from the very basic education students, to build students' self-regulation during the reading process (Navarro, 2021).

Online Reading Activity

Online reading refers to digital content using electronic devices and an internet connection. According to Shenoy and Aithal (2016), this activity predominantly relied on physical paper-based materials until recent technological advancements emerged. These advancements introduced many electronic resources, such as e-readers, computers, and tablets, with screens that facilitate reading. These kinds of reading activities gained popularity and were also employed for educational purposes (Hyman et al., 2014). Online reading, also known as reading text from screens, has numerous advantages, such as accessibility, convenience, and customization. However, there were also disadvantages, such as eye strain, digital fatigue, and reading becoming less pleasant and engaging (Clinton, 2019).

In Indonesia, the rapid advancement of learning technology has also prompted educational institutions to adopt online reading practices. Culturing digital reading habits is deemed crucial due to the demands for digital literacy skills. In addition to this, the utilization of online learning platforms during the pandemic and the post-pandemic period has provided numerous written materials in electronic formats, such as e-books, articles, blogs, websites, and other online platforms (Dewi & Sahirudin, 2020; Sumarsono & Mbato, 2022).

As an educational institution, Mataloko Seminary has implemented online reading activities. Seminarians can access many reading materials presented in electronic books through the XReading platform starting from August 2023. XReading (<https://xreading.com>) is an online library with more than 1,000 graded readers that were made just for students learning English as a second language (EAL). According to recent data, the current number of seminarians enrolled and subscribed to the XReading application is around 300. This activity is conducted in the English Room of the Seminary.

Furthermore, there were several studies related to the implementation of online reading activities at senior high schools in Indonesia. A study conducted by Aprilia et al. (2021) showed that XReading assisted the students to easily access and read the book, improve English skills, and work collaboratively with fellow students and teachers. Meanwhile, usage of another online platform also improved reading comprehension at senior high school level (Adanan et., al, 2021; Lobi & Mukti, 2023).

Reading Comprehension

Reading comprehension is not a taught talent that can be used in many situations. This is one of the most challenging acts readers perform and understand. It takes several skills to be applied (Catts, 2022). Furthermore, Palani (2012) added that reading comprehension requires using one's eyes, ears, and intellect to see, comprehend, and generate mental meaning. Hence, reading is regarded as a social skill that requires the students' active involvement, interaction, and engagement (Ghafar et al., 2013).

According to Lorch Jr and Broek (1997), reading comprehension is a coherence between process and product in reading. Reading expands meaning into a representation that can achieve other purposes. Besides, the consequences of reading also affect the reading process, and the reader's actions during reading affect their feelings thereafter (p. 232).

Adequate reading comprehension requires active engagement with the text, monitoring comprehension, and employing various comprehension-enhancing strategies. These techniques may include previewing the text, posing queries, taking notes, underlining, or highlighting key points, and reflecting on the material. In addition, according to Armbruster, Echolsand, and Brown (1983, pp. 3-20), metacognition in reading encompasses four

significant variables: text, task, strategies, and learner characteristics. Text as a variable requires the reader to know its difficulty, significance, structure, and contextual constraints.

Moreover, reading comprehension in the Indonesian context requires to be improved. Nanda and Azmy (2020) affirmed that there were three causes namely lack of motivation, low prior knowledge, and vocabulary constraint. Therefore, one of the suggested approaches recommended was using a metacognitive strategy. In addition, providing reading access through digital or online platforms also effectively enhances students' reading skills and supports their language learning success (Janah et al., 2022; Wadi et al., 2022).

RESEARCH METHODS

Research Design

The mixed methods research approach was used to investigate the implementation of metacognitive strategies among the seminarians. Johnson et al. (2007) argued that the mixed method is one of the three significant research paradigms along with both qualitative and quantitative studies. Moreover, according to Ary, Jacobs, Sorensen, and Walker (2014), mixed methods research combines qualitative and quantitative methodologies in a single study or numerous related studies. This theory strives to accomplish five aims, one known as triangulation. The purpose of gathering, analyzing, and combining the data is to comprehend better the subject matter being researched. In addition, this research design also used an explanatory mixed method. The explanatory mixed method is defined as collecting and analyzing the data quantitatively in the first step and then proceeding qualitatively in the second research step. Therefore, the researcher gathered the quantitative and qualitative data separately (Creswell, 2012).



Figure 1. The explanatory sequential design. Adapted from (Creswell, 2012, p.541)

Participants

The study was conducted at Seminary St. Yohanes Berkhmans Mataloko in Flores, East Nusa Tenggara. Since Seminary has two levels of formal school and reading comprehension, the researcher concentrated on senior high school students, or SMA, as participants. Purposive sampling was used to select the participants by looking at those who joined the reading activity at the seminary through the XReading online application. Purposive sampling selects respondents that most likely provide relevant and useful data (Kelly, 2010). Twenty-eight seminarians were willing to become participants in this research, starting from class X to XII. The students received course credit for their participation in this study.

Data Collection

To gather the data, the researchers employed a questionnaire and interview. The questionnaire purposively collects data related to the respondents' thoughts, feelings, attitudes, beliefs, perceptions, personalities, or behaviors (Johnson & Christensen, 2014). In the context of metacognition research, the questionnaire was commonly employed to assess metacognition. (Cubukcu, 2009; Mbato 2013). Three pivotal sessions adjusted to metacognition skills: planning, monitoring, and evaluating. The questionnaire was adapted

from one published by Mbato (2013, p. 150; Andriani & Mbato, 2021), consisting of a 5-point Likert scale. The data was obtained on 17 December 2023 after getting permission from the English instructor at Mataloko Seminary.

FINDINGS AND DISCUSSIONS

Findings

The primary objectives of this research are (1) to ascertain what strategies seminarians use in their online reading activities and (2) to what extent metacognitive strategies improve reading comprehension as perceived by seminarians. The following descriptive data provides the answers to the problem of the first research question and interview data to answer the second research question.

Planning Strategies

The following table displays the descriptive statistics for the participant's responses to a series of statements concerning their planning strategies. The percentages represent the distribution of responses across the five options, which range from strongly disagree (1) to strongly agree (5). The statements (PLN1 through PLN4) reflect different aspects of how participants approach reading tasks, including setting reading outcomes, skimming passages for relevance, connecting prior knowledge, and predicting content.

Table 1. The use of planning strategies

No.	Statements	Percentage				
		1	2	3	4	5
1.	(PLN1) I set reading outcomes before I start reading.	17.9% (5)	21.4% (6)	32.1% (9)	17.9% (4)	10.7% (5)
2.	(PLN2) I skim through the passage and check if the content is suitable for the topics, I want to	17.9% (5)	21.4% (6)	17.9% (5)	28.6% (8)	14.3% (4)
3.	(PLN3) I connect my prior knowledge with the topic of my reading.	3.6% (1)	17.9% (5)	17.9% (5)	28.6% (8)	32.1% (9)
4.	(PLN4) I try to predict what the passage will be about.	7.1% (1)	0% (0)	17.9% (5)	39.3% (11)	35.7% (5)

The analysis reveals that seminarians consistently employ various planning strategies. From PLN1, it can be seen that the seminarians set the outcomes before they started reading. As seen in PLN 2, Seminarians' responses indicated that they executed the skimming techniques in reading and ensured that the chosen books were suitable to their interests. Meanwhile, in PLN3, the seminarians tried to connect their knowledge with the topic they wanted to read, and from PLN3, it can be stated that the seminarians also tried to predict the passage's content. The interview results supported quantitative data.

“Yes, I do. But it's only several times. For example, in the lesson, I learned about the universe or space and many things in it like planets. In XReading, I also get about it even in XReading it is explained more specifically- for example, black holes don't know about it, and through this, I add my knowledge”. (P1)

“When I would like to read a book, I usually check the summary in the back of the book or look at the cover and the big title to know what the book would like to talk about. Sometimes books I read connect either with the knowledge I already have or just the experiences I've had in my life. sometimes I just read the book, and at the same time, I realize that there is a connection between the content of the book and my prior knowledge.” (P2)

“No, usually I do not use any specific technique. I just directly connect existing information with the new one”. (P3)

In conclusion, the findings from the quantitative and qualitative above highlight that seminarians actively engage in various planning strategies to enhance their reading activities, with both quantitative data and interview responses underscoring the importance of setting goals, skimming for relevant content, connecting prior knowledge, and predicting content during their reading process.

Monitoring Strategies

The table below shows the percentages of participants who reported utilizing different monitoring tactics while reading. These methods, indicated by statements MNT5-10, include pausing to verify understanding, visualizing information, utilizing textual characteristics, keeping attention, guessing the meaning of new terms, and accessing reference resources. The data reveals how seminarians actively monitor and adapt their reading processes to improve comprehension and retention.

Table 2. The use of Monitoring Strategies

No.	Statements	Percentage				
		1	2	3	4	5
5.	(MNT5) I regularly pause and check whether the text makes sense while reading.	0% (0)	7.1% (2)	21.4% (6)	42.9% (12)	28.6% (8)
6.	(MNT6) I visualize the information by imagining or drawing things.	0% (0)	10.7% (3)	21.4% (6)	14.3% (4)	53.6% (15)
7.	(MNT7) I use features (tables, charts, section titles, etc.) or typographical aids (italics, bold, different word colors, etc.) available in the text to help my reading activity.	10.7% (3)	21.4% (6)	7.1% (3)	39.3% (11)	21.4% (6)
8.	(MNT8) I try to maintain my focus during reading.	0% (0)	0% (0)	21.4% (6)	32.1% (9)	46.4% (13)
9.	(MNT9) I try to guess the meaning of unfamiliar words by contextualizing them (using familiar words, pictures, other sentences, etc.).	0% (0)	0% (0)	10.7% (3)	46.4% (13)	42.9% (12)
10.	(MNT10) I use reference materials (dictionary, textbook, etc.) to resolve conflicting information and comprehension problems.	3.6% (1)	17.9% (5)	25% (7)	28.6% (8)	25% (7)

The findings suggest that seminarians actively apply a variety of monitoring strategies to enhance their reading comprehension. As indicated by MNT5, the seminarians mainly stated that they often take a moment to ensure whether the text made sense. In MNT6, the seminarians firmly stated that the text made them visualize the story visibly and invisibly. In MNT7, the seminarian also stated that they used the text's features and typographical aids to enhance their reading comprehension. Furthermore, in MNT8, the seminarian agreed that maintaining focus was essential to reading. In MNT9, they tried to guess the meaning of words. Lastly, in MNT10, a consultation with several references is needed during the monitoring session. These findings were supported by the interview results below.

“My way of dealing with this is by using a dictionary or Google to find out the meaning of unknown words or terms and looking for books that are at the right level for me.” (P5)

“During this time my challenge is many times always getting lost concentration or focus. And there's only one way I can handle that, and that's to have a little time to take a break from reading. Sometimes I also get out of front of the laptop screen (because reading books virtually) and a little walking around will also help me”. (P6)

These findings highlight the seminarians' active involvement in several monitoring measures to improve their reading comprehension. The interview replies further confirm their attempts to stay focused, comprehend foreign terminology, and utilize extra resources when necessary.

Evaluation Strategies

The table below presents the percentages of seminarians who reported using various evaluation strategies during their reading activities. The strategies, represented by statements EVA11 through EVA15, include summarizing or paraphrasing key information, checking the accuracy of predictions, re-reading for better understanding, assessing the effectiveness of their strategies, and evaluating whether their reading objectives were met.

Table 3. The Use of Evaluation Strategies

No.	Statements	Percentage				
		1	2	3	4	5
11.	(EVA11) I summarize or paraphrase (written or mentally) the key information.	3.6% (1)	14.3% (4)	32.1% (9)	21.4% (6)	28.6% (8)
12.	(EVA12) After reading, I check if my predictions are true.	3.6% (1)	3.6% (1)	17.9% (5)	50% (14)	25% (7)
13.	(EVA13) If I do not understand the passage enough, I re-read the passage for better understanding.	3.6% (1)	7.1% (2)	10.7% (3)	35.7% (10)	42.9% (12)
14.	(EVA14) I judge if my strategies work or if other strategies may work better.	7.1% (2)	10.7% (2)	39.3% (11)	28.6% (8)	14.3% (4)
15.	(EVA15) I check whether I have accomplished my reading objectives.	3.6% (1)	14.3% (4)	17.9% (5)	28.6% (8)	35.7% (10)

The data suggested that seminarians were actively involved in a variety of evaluation strategies to improve their reading comprehension. As displayed from the EVA11, the seminarians always summarized or paraphrased the key information they obtained from the text. In EVA12, they also checked if the predictions were correct or not. Besides that, in EVA13, seminarians strongly agreed that rereading was the solution to comprehend the passage. In EVA14, the seminarians evaluate their strategies during the activity. In addition, in EVA15, the seminarians also check whether their initial outcomes were finally accomplished. These conclusions were corroborated by the interview results shown below.

“Yes, I have. If I find something different with the information that I get from other platforms, I will find more in-depth information and maybe discuss it with friends who know more than me. I think it's helped me to absorb more of the latest and verified information”. (P7)

“So far, I have used to interpret a reading orally, but I have only once looked back at what I have interpreted. The goal is to find out the storyline that has been read before continuing the connection to the next reading”. (P8)

“I want to try my best to understand what the author conveys through his book. Usually, in several books, the history of the book, the conditions of the place, and the author when making the book are included. That is what motivated me to carry out further interpretation”. (P9)

Finally, the data showed that seminarians used a range of evaluation procedures to improve their reading comprehension while also actively reflecting on and adjusting their approaches as required.

Discussions

To know more broadly what metacognitive strategies seminarians use in online reading activities and the extent to which metacognitive strategies improve reading comprehension as perceived by seminarians, the authors tried to discuss further as followed.

Referring to the definition of metacognition defined by Flavell (1979) earlier as cognition about cognition and awareness of cognition and regulation of cognition, it is evident through the interview and reflective narration obtained from the survey and interview that seminarians are fully aware of metacognition practice. The findings of this study revealed that although the seminarians performed an excellent understanding of metacognitive strategies, there were slight differences among the three strategies.

In the planning stages, seminarians were not habituated to set reading outcomes. They mostly tried to connect what the book was about with their knowledge (39.3%), as one participant mentioned his experience learning materials about the universe. Meanwhile, the highest percentage (46.4 %) were in maintaining focus during the reading process and guessing the meaning of unfamiliar words by using pictures and contextualizing other words (46.4%). Lastly, seminarians were unfamiliar with summarizing the book in the evaluation stages (32.1%) since they had to move to other activities on the platform and with the judge about the strategies used during the reading. It can be concluded that the seminarians paid more attention during the reading process as the participants mostly tried to consult with the dictionary and focus more on the passage.

The finding was in line with what Muhid et al., 2020 also argued that students at senior high school, mostly could apply the metacognitive strategies in their reading activity. However, in the evaluation stages was the least applied by the students. This is probably because the activity was employed in the form of checking understanding provided by the XReading platform and the evaluation is done by the teacher. Another reason could be the allocation of time to do the activities which was limited since it occurred during their free time at seminary (Lobi & Mukti, 2023).

Regarding reading comprehension, the findings of this study indicated that the metacognitive strategies assisted the seminarian during the reading activity. Although the strategies have not been taught before, the seminarians proved that they understood. Through actions such as making connections with prior knowledge (planning) and maintaining the focus (monitoring stages) also rereading or rechecking the text for a better understanding (evaluation), the seminarians are more aware of their reading process, making it easier to overcome difficulties in understanding texts and improving their overall reading comprehension skills (Nanda & Azmi, 2020; Navarro, 2021; Annisa et al., 2023).

CONCLUSION

This study investigated what metacognitive strategies are applied in the context of online reading activities among seminarians and to what extent metacognitive strategies improve reading comprehension. The study recognized that online reading assisted the seminarians in improving their reading comprehension through

this magic strategy, regardless of the challenge, such as losing concentration due to the screen reading process.

Furthermore, this study highlighted several vital metacognitive strategies the seminarians applied during the activity. These strategies include planning, monitoring, and evaluation. From the gathered data, the more specific strategies that the seminarians used were maintaining focus during the reading and guessing the meaning of unfamiliar words in the monitoring stages. Besides that, this study also revealed the significant roles of technology in facilitating metacognitive strategies during online reading. The seminarians admitted using the provided features, such as an online dictionary. In addition, by equipping themselves with these strategies and receiving appropriate guidance and support, seminarians can optimize their reading experiences, deepen their comprehension, and ultimately acquire the knowledge and skills in the four pillars of formation, mainly to be more aware and reflective in their vocational lives.

The empirical studies on metacognition in reading are extensively influenced by constructivism, the state of mind that reduces the reality based on the process that involves students in the process itself while simultaneously constructing the knowledge, activity such as knowing the influence of motivation, apprenticeship, self-efficacy among the central theme involving in the research, including in this study. Likewise, there should be further research on how metacognition is successfully implemented in the reading activity for seminarians, including its influence on other cognition aspects such as word recognition, syntactic and lexical acquisition, and memory retention during reading activity and, more broadly, metacognition awareness toward their language learning process.

Finally, this study provided the data for the implementation of metacognitive strategies in online reading activities, particularly at the high school level. English teachers and instructors at every level are suggested to apply the strategies to enhance students' reading comprehension.

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