



Investigating the Relationship Between Metacognitive Awareness and Critical Reading Performance among Undergraduate EFL Students

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Article Info	Abstract
Received: 2026-04-19 Revised: 2026-05-01 Accepted: 2026-06-01 Keywords: <i>Critical Reading; EFL students; metacognitive awareness; reading strategies</i> DOI: 10.24256/ideas.v14i1.10206 Corresponding Author: Nabila Syahrani nabila.syahrani15@gmail.com English Education Study Program, Universitas Negeri Makassar	<i>This study investigates the relationship between metacognitive awareness and critical reading performance among undergraduate EFL students in Indonesia. The research addresses the need to better understand how students' awareness of reading strategies contributes to their ability to engage in higher-order reading processes. A quantitative correlational research design was employed, involving 150 undergraduate students from the English Education program at UIN Alauddin Makassar. Data were collected using the Metacognitive Awareness of Reading Strategies Inventory-Revised (MARSIR) to measure students' metacognitive awareness and a researcher-developed critical reading test consisting of 25 multiple-choice items to assess critical reading performance. The data were analyzed using Pearson Product-Moment Correlation. The results revealed a statistically significant and strong positive relationship between metacognitive awareness and critical reading performance ($r = 0.971, p < 0.01$), indicating that students with higher levels of metacognitive awareness tend to achieve better results in critical reading tasks. These findings suggest that metacognitive awareness plays an important role in supporting students' ability to analyze, evaluate, and interpret texts effectively. The study highlights the importance of integrating metacognitive strategy instruction into reading pedagogy to enhance students' critical reading skills. However, the findings are limited to the specific context of this study and should be interpreted within its scope. Future research is recommended to explore additional variables and employ different research designs to further examine this relationship.</i>

1. Introduction

Recent research has increasingly emphasized the role of critical reading skills in academic literacy development, particularly within the context of English as a Foreign Language (EFL) education. Reading comprehension, as a foundational skill in language learning, extends beyond mere decoding of textual information to encompass higher-order thinking processes that enable readers to analyze, evaluate, and synthesize meaning from written materials (Pahrizal et al., 2025).

In contemporary educational discourse, the ability to read critically has emerged as an essential competency for university students, facilitating their engagement with complex academic texts and supporting their overall intellectual growth (Jang et al., 2025). Critical reading, defined as the process of examining texts through systematic analysis, evaluation, and interpretation of both explicit and implicit meanings, enables learners to question assumptions, identify biases, and construct well-reasoned responses to written discourse (Coskun, 2024). This skill becomes particularly crucial in higher education settings where students are expected to navigate diverse academic materials, evaluate competing arguments, and develop evidence-based perspectives on complex issues.

The significance of metacognition in reading comprehension has garnered substantial attention from researchers and educators over the past several decades. Flavell (1976, as cited in Dang, 2024) who pioneered the concept of metacognition, defined it as knowledge concerning one's own cognitive processes and the active monitoring and regulation of these processes. Within the domain of reading, metacognitive awareness encompasses readers' understanding of their cognitive resources and their ability to plan, monitor, and evaluate their comprehension strategies during the reading process (Dang, 2024).

Metacognitive reading strategies, comprise three distinct categories: global reading strategies, which involve planning and managing reading tasks; problem-solving strategies, which readers employ when encountering difficulties during reading; and support reading strategies, which utilize external mechanisms to facilitate comprehension (Alamer & Alsagoafi, 2023). The application of these strategies enables readers to become more conscious of their cognitive processes, thereby enhancing their capacity to extract meaning from texts and overcome comprehension challenges (Pahrizal et al., 2025).

The theoretical interconnection between metacognition and critical thinking has been well-documented in educational literature. Scholars argue that metacognitive processes serve as foundational mechanisms through which critical thinking develops and operates (Dinçer & Çilek, 2022). Specifically, critical thinking requires individuals to engage in reflective evaluation of their own thought processes, a capacity that fundamentally depends on metacognitive awareness. Critical thinking as a metacognitive process that enables learners to make logical inferences and solve problems through systematic reflection (Coskun, 2024).

This theoretical perspective suggests that readers who possess heightened metacognitive awareness may be better equipped to engage in critical reading, as they can consciously monitor their comprehension, evaluate textual arguments, and regulate their interpretive strategies. Consequently, understanding the relationship between metacognitive awareness and critical reading performance holds significant implications for language pedagogy and curriculum development.

Despite the extensive body of research examining metacognitive reading strategies and their impact on reading comprehension, several notable gaps persist in the literature. First, methodological limitations characterize many existing studies, with the majority relying exclusively on quantitative survey designs that fail to capture the nuanced ways in which learners employ metacognitive strategies during critical reading tasks (Coskun, 2024).

While instruments such as the Metacognitive Awareness of Reading Strategies Inventory (MARSİ) and the Survey of Reading Strategies (SORS) have provided valuable insights into learners' self-reported strategy use, these tools may not fully reflect the dynamic and context-dependent nature of strategic reading behavior (Ahmed, 2020). The absence of qualitative investigations that explore learners' actual strategy deployment during critical reading activities represents a significant methodological gap that limits comprehensive understanding of this phenomenon.

Second, inconsistencies in research findings regarding the relationship between metacognitive awareness and reading outcomes warrant further investigation. While numerous studies have documented positive correlations between metacognitive strategy use and reading comprehension performance (Dang, 2024; Pahrizal et al., 2025), other investigations have reported non-significant or weak relationships (Coskun, 2024; Nurhayati, 2023). These contradictory findings suggest that the relationship between metacognitive awareness and reading performance may be more complex than previously assumed, potentially mediated by factors such as learner proficiency, motivational intensity, or contextual variables (Pahrizal et al., 2025).

Moreover, most existing research has focused on general reading comprehension rather than specifically examining critical reading outcomes, leaving unanswered questions about whether metacognitive awareness differentially predicts performance on tasks requiring higher-order analytical skills.

Third, the exploration of metacognitive awareness in relation to critical reading remains substantially underexplored across diverse educational contexts. While studies have investigated metacognitive reading strategies among learners in various settings, including Indonesia ((Pahrizal et al., 2025), Vietnam ((Manh Do & Le Thu Phan, 2021), Turkey (Dinçer & Çilek, 2022), Morocco (El Madani et al., 2024), and Saudi Arabia (Alamer & Alsagoafi, 2023), research specifically examining the connection between metacognitive awareness and critical reading performance remains scarce, particularly within Indonesian higher education.

Given that critical reading represents a distinct cognitive activity requiring sophisticated analytical and evaluative skills, understanding how metacognitive awareness contributes to this specific competency is essential for developing targeted instructional interventions (Coskun, 2024). Furthermore, as Indonesian EFL learners continue to face challenges in reading comprehension, as evidenced by national performance on international assessments such as PISA, investigating factors that may enhance their critical reading abilities carries urgent practical significance.

Fourth, recent psychometric research has raised important questions about the conceptualization and measurement of metacognitive reading awareness constructs. Alamer & Alsagoafi (2023), demonstrated through confirmatory composite analysis that the MARSİ-R may be better operationalized as a composite rather than a common factor model, suggesting that items on metacognitive strategy inventories may hold unique information about the construct that is not interchangeable.

This methodological insight has implications for how researchers conceptualize and analyze the relationship between metacognitive awareness and reading outcomes, yet few studies have incorporated these advances into their analytical frameworks. Additionally, the mediating mechanisms through which metacognitive awareness influences reading performance remain inadequately theorized and tested, with emerging evidence suggesting that motivational factors such as learning effort may play crucial mediating roles (Alamer & Alsagoafi, 2023).

Given these identified gaps, the present study aims to investigate the relationship between metacognitive awareness and critical reading performance among undergraduate EFL students in the Indonesian higher education context. Specifically, this research seeks to examine the extent to which students' metacognitive awareness of reading strategies predicts their performance on critical reading tasks, while also exploring potential variations across different dimensions of metacognitive awareness. By focusing on the Indonesian context, this study addresses the need for context-specific research that can inform local pedagogical practices and curriculum development. Furthermore, this investigation contributes to the broader theoretical discourse on the connection between metacognition and critical thinking by examining how metacognitive awareness manifests in the specific domain of critical reading.

The study makes several contributions to the existing literature. Theoretically, it extends understanding of the metacognition-critical reading nexus by examining this relationship within an underexplored educational context and by considering the multidimensional nature of metacognitive awareness. Practically, the findings may inform the design of reading instruction programs that explicitly integrate metacognitive strategy training to enhance students' critical reading abilities.

Additionally, by focusing on undergraduate EFL learners, this research addresses the needs of a population for whom critical reading skills are essential for academic success and professional development. Ultimately, this study aims to provide empirical evidence that can guide educators, curriculum developers, and policymakers in fostering more effective reading instruction that cultivates both metacognitive awareness and critical reading competencies among Indonesian EFL learner.

2. Method

This study employs a quantitative correlational research design to investigate the relationship between metacognitive awareness and critical reading performance among undergraduate EFL students. A correlational design is appropriate for this study as it aims to examine the extent to which two or more variables are related without manipulating any variables (Creswell, 2019). In order to provide empirical evidence that can guide pedagogical practices and curriculum development in the Indonesian EFL context, this study specifically aims to ascertain whether there is a statistically significant relationship between students' metacognitive awareness of reading strategies and their performance on critical reading tasks.

The participants of this study will be 150 undergraduate EFL students enrolled in the English Education program at UIN Alauddin Makassar. This sample size is regarded appropriate for correlational research, as Fraenkel & Wallen (2008) recommend a minimum of 50 participants for establishing connections between variables, with bigger samples yielding more reliable results. Purposive sampling will be used to select participants based on the following criteria: (1) active enrollment in the English Education program; (2) completion of at least four semesters of study to guarantee sufficient exposure to academic reading materials and critical reading courses; and (3) voluntary consent to participate in the study. The selection of students from UIN Alauddin Makassar provides a focused investigation within the Indonesian higher education context, addressing the need for context-specific research that has been identified as a significant gap in the literature (Pahrizal et al., 2025).

Two primary instruments will be utilized in this study to measure the variables of interest. First, the Metacognitive Awareness of Reading Strategies Inventory-Revised (MARSIR) developed by Mokhtari et al., (2018), will be employed to measure students' metacognitive awareness of reading strategies. The MARSIR was chosen because it is a

reputable tool with excellent psychometric qualities across a range of demographics and has been used extensively in EFL situations (Alamer & Alsagoafi, 2023; Mokhtari et al., 2018).

The inventory consists of 15 items across three subscales: Global Reading Strategies (5 items), which involve planning and managing reading tasks such as previewing text and setting purposes for reading; Problem-Solving Strategies (5 items), which readers employ when encountering difficulties during reading such as adjusting reading speed and rereading; and Support Reading Strategies (5 items), which utilize external mechanisms to facilitate comprehension such as taking notes and using reference materials. Participants will respond to each item using a five-point Likert scale ranging from 1 (I have never heard of this strategy before) to 5 (I know this strategy quite well, and I often use it when I read). The inventory has demonstrated strong reliability and validity in previous studies, with Cronbach's alpha coefficients ranging from .85 to .93 (Alamer & Alsagoafi, 2023; Mokhtari et al., 2018), indicating excellent internal consistency.

Second, a Critical Reading Test will be developed by the researcher to assess participants' critical reading performance. The test will be designed based on established frameworks of critical reading skills, including the ability to identify main ideas, distinguish between facts and opinions, make inferences, analyze arguments, evaluate evidence, and identify author's purpose and tone (Wallace, 2003). These skills support the idea that critical reading is a high-level cognitive process that requires readers to systematically analyze, assess, and evaluate texts. (Keyif, 2021).

The test will consist of 25 multiple-choice questions based on academic reading passages appropriate for undergraduate EFL students. To ensure content validity, the test will be reviewed by a panel of experts in reading instruction and English language teaching, who will evaluate the alignment between test items and the critical reading construct. Following expert review, a pilot study will be conducted with 30 students who share similar characteristics with the target population to assess the reliability and item characteristics of the test. To ensure internal consistency of the final test, Cronbach's alpha coefficient will be used. Item analysis will be performed to evaluate item difficulty and discrimination indices, and items demonstrating appropriate psychometric properties will be retained for the final version.

3. Result

A Pearson Product-Moment correlation analysis was used to investigate the relationship between undergraduate EFL students' critical reading performance and metacognitive awareness in order to answer the research question. The table below displays the analysis's findings:

Table 1. Correlation between Metacognitive Awareness and Critical Reading Performance

Correlations		Metacognitive Awareness	Critical Reading
Metacognitive Awareness	Pearson Correlation	1	.971**
	Sig. (2-tailed)		.000
	N	150	150
Critical Reading	Pearson Correlation	.971**	1

Sig. (2-tailed)	.000	
N	150	150

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

The relationship between metacognitive awareness and critical reading performance among undergraduate EFL students was investigated using correlation analysis utilizing Pearson Product-Moment Correlation. The findings showed that metacognitive awareness and critical reading performance have a very strong a positive correlation ($r = 0.971$, $p < 0.01$, $N = 150$). This suggests that learners who exhibit greater levels of metacognitive awareness also typically perform better when it comes to critical reading.

Additionally, the correlation is statistically significant at the 1% level (2-tailed) because the significance value ($p = 0.000$) is less than the 0.01 level. This suggests that the relationship between the two variables is unlikely to have occurred by chance. Thus, it can be said that among the study participants, metacognitive awareness and critical reading performance are significantly correlated.

4. Discussion

The results of this study show that among undergraduate EFL students, metacognitive awareness and critical reading performance have a very strong and statistically significant a beneficial relationship. This finding lends credence to the theory that metacognitive awareness is essential for supporting higher-order cognitive functions related to reading. Learners who are more conscious of their cognitive strategies are typically better at organizing, tracking, and assessing their understanding, which improves their capacity to participate in critical reading activities like evaluating evidence, drawing conclusions, and analyzing arguments.

This result is in line with earlier research showing a favorable correlation between reading performance and the application of metacognitive strategies (Dang, 2024; Pahrizal et al., 2025). Because both entail introspective and self-regulated processes, it also supports the idea that metacognition is a fundamental part of critical thinking (Dinçer & Çilek, 2022). The capacity to deliberately control reading processes becomes especially crucial in the setting of EFL instruction, when students frequently struggle to comprehend complicated texts. Consequently, when faced with challenges, students with greater metacognitive awareness are more likely to use successful methods, which improves critical reading outcomes.

However, the study's remarkably high correlation coefficient ($r = 0.971$) indicates an almost perfect relationship between the two variables, which is rather rare in educational research. This could suggest that there is a close relationship between the conceptions of metacognitive awareness and critical reading performance, or that the strength of the relation may be influenced by other underlying factors. Additionally, overlapping features of cognitive processing may be captured by the instruments employed in this study, which could increase the correlation coefficient. Consequently, even though the results clearly demonstrate the significance of metacognitive awareness, care should be used when interpreting them.

Additionally, the findings of this study help to resolve discrepancies in earlier research, where some studies indicated weak or non-significant correlations between reading outcomes and metacognitive awareness (Coskun, 2024; Nurhayati, 2023). The particular setting of Indonesian undergraduate EFL students, who have been exposed to academic reading assignments and may have developed a higher level of strategic awareness, may have an impact on the strong relationship found in this study. This

emphasizes how crucial it is to take learner-related and contextual elements into account when analyzing the connection between cognitive variables in language acquisition.

These results imply that improving students' metacognitive awareness should be a major goal of reading teaching from a pedagogical standpoint. Metacognitive practices, like setting reading objectives, keeping an eye on comprehension, and assessing comprehension after reading, are suggested to be explicitly taught by teachers. By incorporating these techniques into instructional activities, students may be able to enhance their critical reading skills and form more productive reading habits. In addition to being a significant portion of research articles, this section is typically the longest. The findings of the research are discussed in this section. the method of analyzing data, including statistical computations and other procedures, in order to accomplish its research. Kindly give a narrative presentation of the conversation.

5. Conclusion

The purpose of this study was to investigate the connection between undergraduate EFL (English as a Foreign Language) students' critical reading performance and metacognitive awareness. It is clear from the results that the two variables have a strong, statistically significant a beneficial relationship. This suggests that students who are more metacognitively aware typically do better on critical reading performance. This result lends credence to theoretical viewpoints that highlight how metacognitive awareness enhances higher-order cognitive functions, including reading comprehension and critical analysis.

The study's findings also support other studies that emphasized the significance of metacognitive strategies in raising reading performance. Learners are more likely to interact with texts successfully and exhibit better critical reading abilities if they are able to organize, track, and assess their reading process. Thus, especially in the context of EFL, metacognitive awareness can be seen as a crucial component in assisting students in developing their academic literacy.

But there are a few restrictions to be aware of. First, it is more difficult to determine causal correlations between variables when using a correlational research approach. Second, self-reported data is used to quantify metacognitive awareness, which may not accurately reflect how students actually employ strategies when engaging in reading activities. Third, the results of this study may not be as applicable to different populations or educational environments because it was carried out in a single institutional setting.

In order to better understand the function of metacognitive awareness in critical reading, it is advised that future studies use a more thorough study design, such as an experimental or mixed-methods approach. To provide a more comprehensive knowledge of the elements influencing critical reading ability, future research could also incorporate other variables like motivation, language competency, or reading habits. Additionally, carrying out comparable research in various settings and with a wider range of samples would improve the findings' generalizability.

Practically speaking, the results of this study indicate that teachers should incorporate training in metacognitive strategies into reading pedagogy. Students' capacity to interact critically with texts can be improved by teaching them how to organize, track, and assess their reading process. As a result, this study advances the creation of more efficient teaching strategies meant to enhance EFL students' critical reading performances.

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