

The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability

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A B S T R A C T

This research explored the combined influence of Vocabulary Mastery (VM) and Metacognitive Reading Strategies (MRS) on students' Critical Reading Ability (CRA) within an EFL learning context, an area that has received limited empirical attention. Critical reading plays a vital role in academic achievement; nevertheless, many students encounter challenges stemming from inadequate vocabulary knowledge and limited awareness of how to strategically control their reading processes. Adopting a quantitative correlational approach, data were gathered from 30 ninth-grade students using a vocabulary assessment, the MARSI questionnaire, and a critical reading test. Prior to administration, all instruments were examined through expert judgment, pilot studies, and reliability testing. Descriptive analysis revealed that learners demonstrated moderate proficiency in vocabulary mastery, use of metacognitive strategies, and critical reading skills. The correlation results indicated strong positive associations among the variables, with metacognitive reading strategies exhibiting the strongest relationship with critical reading ability ($r = 0.89$). Further analysis using multiple regression showed that the proposed model significantly predicted students' critical reading performance ($R^2 = 0.811$, $p < 0.001$). While vocabulary mastery displayed a positive relationship with critical reading at the correlational level, it ceased to be a significant predictor when analysed alongside metacognitive reading strategies in the regression model. This finding suggests that vocabulary knowledge mainly facilitates surface-level comprehension, whereas strategic self-regulation plays a more decisive role in supporting higher-order critical reading processes. Overall, the study emphasizes the importance of metacognitive regulation in fostering learners' ability to analyse, evaluate, and respond critically to written texts.

Keywords: Vocabulary Mastery, Metacognitive Reading Strategies, Critical Reading Ability, EFL, Quantitative Study

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INTRODUCTION

Reading plays a pivotal role in academic success for university students in English as a Foreign Language (EFL) contexts. At this level, reading is no longer limited to understanding explicit information in a text. Students are expected to evaluate arguments, interpret implicit meanings, examine the credibility of information, and formulate well-reasoned judgments based on textual evidence. These higher-order reading processes are commonly conceptualized as critical reading ability, a central component of academic literacy that supports students' engagement with scholarly discourse. Nevertheless, for many EFL learners, developing critical reading remains a considerable challenge, particularly when linguistic resources and strategic reading skills are insufficient. This view is supported by (Maab et al., 2024), who emphasize that academic reading in EFL contexts goes beyond linguistic competence and involves active, critical, and strategic engagement with texts, where students are required to analyse arguments, assess the credibility of information, and construct meaning beyond surface-level understanding. This perspective indicates that challenges in

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 critical reading among EFL learners are not solely attributable to limited language proficiency, but also to insufficient development of higher-order cognitive processes and strategic reading abilities.

Among the linguistic factors influencing reading performance, vocabulary knowledge has consistently been identified as a fundamental determinant of comprehension. Vocabulary serves as the primary gateway through which readers access and construct meaning at word, sentence, and discourse levels. Strong empirical evidence reinforces this perspective. A comprehensive meta-analysis by Dong et al. reveals that vocabulary knowledge makes a substantial contribution to reading comprehension across educational stages, including higher education (Dong et al., 2020). Their findings indicate that vocabulary knowledge supports not only basic word recognition, but also inferential processing and the integration of ideas - processes (Maab et al., 2024) that are essential when readers engage with complex academic texts. In the context of critical reading, limited vocabulary may still allow learners to grasp general ideas, yet it often constrains their capacity to analyze arguments, evaluate claims, and interpret nuanced perspectives presented by authors. Research has further shown a consistent positive relationship between EFL learners' vocabulary knowledge and reading comprehension performance, indicating that greater lexical knowledge tends to enhance comprehension of academic texts (Manihuruk, 2020). However, this relationship also suggests that vocabulary alone is not sufficient for higher-order critical reading unless learners concurrently develop strategic and cognitive skills to process and evaluate text meaningfully.

Beyond linguistic competence, metacognitive reading strategies play a crucial role in enabling learners to engage more deeply and purposefully with texts. Metacognition refers to learners' awareness of and ability to regulate their cognitive processes during learning, particularly in tasks that demand active decision-making and problem-solving (Hacker & Dunlosky, 2009.). In reading activities, this regulation manifests through planning reading goals, monitoring comprehension while reading, and evaluating understanding after completing a text. Theoretical frameworks in reading comprehension emphasize that effective readers do not interact with texts passively; rather, they actively manage their understanding by questioning information, checking coherence, and adjusting strategies when difficulties arise (Levchyk et al., 2022; Snow, 2002). Such regulatory processes are indispensable for critical reading, where readers are required to assess the relevance, validity, and trustworthiness of textual information.

In EFL contexts, the role of metacognitive strategy use becomes even more prominent. Brown argues that successful language learners are characterized by their ability to consciously manage learning through strategic and metacognitive control (Laak & Aru, 2025). Empirical studies support this view. Pahrizal et al. found that learners with higher metacognitive awareness demonstrate stronger reading performance, while Farida and Rosyidi reported that explicit instruction in metacognitive strategies enhances students' ability to regulate comprehension processes effectively (Farida & Rosyidi, 2019; Pahrizal et al., 2025). These findings suggest that metacognitive strategies facilitate a shift from surface-level understanding toward deeper, more reflective engagement with texts, which is essential for the development of critical reading ability. Research on metacognitive reading strategies among EFL learners shows that students who regularly apply metacognitive awareness and regulation tend to understand texts more effectively. For example, Husna et al. found that learners who actively plan, monitor, and evaluate their reading processes achieve better comprehension (Husna et al., 2025) . This finding indicates that successful reading involves more than linguistic knowledge alone; it also depends on learners' ability to consciously manage how they approach and process texts. Supporting this perspective, recent studies report that EFL learners with higher awareness and more frequent use of metacognitive reading strategies demonstrate stronger reading performance, particularly in tasks that require careful interpretation and meaning construction (El Boukhrissi & Brigui, 2025; Suharni et al., 2024). Taken together, these findings suggest that metacognitive strategy use helps learners move beyond surface-level understanding toward deeper, more reflective, and critical engagement with academic texts.



Despite the recognized importance of vocabulary knowledge and metacognitive strategies, contextual challenges remain evident in many university EFL classrooms. In the present research context, a substantial number of students enter higher education with limited prior exposure to English, resulting in weak vocabulary foundations and minimal experience with strategic reading. Although some students are able to comprehend texts by relying on top-down processes, such as background knowledge or contextual clues, this approach often leads only to general understanding rather than critical engagement. Reading theory emphasizes that effective academic reading requires a dynamic interaction between bottom-up linguistic processing and top-down strategic regulation (Deliany & Cahyono, 2020). When either component is underdeveloped, students' ability to engage critically with texts is likely to remain constrained. Although a growing body of research has examined the roles of vocabulary knowledge and metacognitive reading strategies in reading comprehension (Dong et al., 2020; Farida & Rosyidi, 2019; Pahrizal et al., 2025), most studies have focused on general or literal comprehension outcomes. Research that explicitly addresses critical reading ability as a higher-order reading outcome at the university level remains limited. Furthermore, existing studies often examine vocabulary mastery and metacognitive strategies as separate predictors, providing insufficient insight into how these factors may function simultaneously to support higher-level reading processes, particularly in EFL contexts.

While previous studies have acknowledged the importance of vocabulary knowledge and metacognitive reading strategies in supporting reading comprehension, this study approaches the issue from a more specific and contextualized perspective by focusing on critical reading ability as a key academic outcome at the university level. Rather than examining vocabulary mastery and metacognitive strategies in isolation, this study considers how both factors operate together in shaping students' ability to engage critically with academic texts. By situating the investigation within an EFL context where students face limited early exposure to English but increasing demands for critical reading, the study offers a more grounded understanding of how linguistic resources and strategic awareness jointly support higher-order reading processes. In this way, the present research seeks to enrich existing EFL reading literature by highlighting the interdependent role of vocabulary and metacognition in the development of critical reading.

To address this gap, the present study investigates the relationship between students' vocabulary mastery, their use of metacognitive reading strategies, and their critical reading ability. Specifically, this study examines whether vocabulary mastery and metacognitive reading strategies are individually related to critical reading ability and explores the extent to which these variables jointly contribute to university students' critical reading performance in an EFL context. The findings are expected to contribute to EFL reading research by clarifying key determinants of critical reading and to offer practical implications for instructional practices aimed at fostering students' critical engagement with academic texts.

METHOD

In this study, Vocabulary Mastery (VM), Metacognitive Reading Strategies (MRS), and Critical Reading Ability (CRA) are operationally defined based on well-established theoretical perspectives. Vocabulary mastery is understood as learners' knowledge of word meanings, including aspects of form, meaning, and use, which supports their ability to comprehend written texts effectively (Nation, 2001; Schmitt, 2010). Metacognitive reading strategies refer to learners' conscious awareness of and control over their reading processes, particularly in planning, monitoring, and evaluating comprehension while reading (Flavell, 1979; Mokhtari & Reichard, 2002). Critical reading ability is conceptualized as the capacity to move beyond literal understanding by analysing arguments, assessing the credibility of information, identifying implicit meanings, and forming well-reasoned judgments based on textual evidence (Wallace, 2003). In the context of this study, these constructs are measured through students' performance on a vocabulary test, their responses to the Metacognitive Awareness

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Research Design

This study employed a quantitative correlational research design to investigate the relationships among Vocabulary Mastery (VM), Metacognitive Reading Strategies (MRS), and students' Critical Reading Ability (CRA). This design was selected because the study did not involve any experimental treatment or intervention but sought to examine the degree to which the independent variables were related to and could predict the dependent variable. According to Creswell and Creswell, correlational research is appropriate for identifying relationships among variables and determining their predictive contribution within naturally occurring educational settings (Creswell & Creswell, 2018). In the field of second language research, McKay also emphasizes that correlational designs are particularly suitable for exploring relationships among language-related variables without manipulating instructional conditions (McKay, 2009).

Population and Sample

The population of this study consisted of ninth-grade students at SMP N 3 Bukittinggi in the 2025/2026 academic year. A purposive sampling technique was applied, with the primary criterion being students' prior exposure to English instruction for at least two years, particularly in reading-related activities. This criterion was used to ensure that participants possessed adequate background knowledge to demonstrate their vocabulary mastery, metacognitive reading strategy use, and critical reading ability. A total of 30 students participated in the study. Only students who regularly attended English classes, completed all research instruments, and voluntarily agreed to participate were included in the sample.

Data Collection

Data were collected using three research instruments: a vocabulary mastery test, a metacognitive reading strategies questionnaire, and a critical reading test. The vocabulary test consisted of multiple-choice items measuring word meaning, synonym and antonym recognition, and contextual word interpretation. Metacognitive reading strategies were assessed using an adapted version of the Metacognitive Awareness of Reading Strategies Inventory (MRSI) developed by Pahrizal (Pahrizal et al., 2025), covering global, problem-solving, and support strategies. The critical reading test measured students' ability to identify main ideas and arguments, draw inferences, evaluate evidence, recognize bias, and judge text credibility.

Prior to administration, all instruments were validated by three experts in English language teaching and assessment to ensure clarity, content relevance, and appropriateness for the students' proficiency level. A pilot test was conducted with students outside the research sample to refine ambiguous items. Instrument reliability was calculated using Cronbach's Alpha, and all instruments reached acceptable reliability levels.

Data Analysis

Data collection was conducted over a one-week period, with each instrument administered in separate sessions to minimize student fatigue. After data collection, descriptive statistics were used to summarize score distributions and central tendencies. Assumption tests, including normality and linearity, were conducted before inferential analysis. Pearson Product-Moment correlation was employed to examine relationships among the variables, followed by multiple regression analysis to determine the individual and combined contributions of VM and MRS to CRA. All statistical analyses were conducted at a 0.05 significance level. As with most correlational studies, potential response bias from self-report data and limited generalizability due to purposive sampling were acknowledged as methodological limitations.

FINDINGS AND DISCUSSION

This study examined the relationship between Vocabulary Mastery, Metacognitive Reading Strategies, and Critical Reading Ability among 30 ninth-grade students. Descriptive inspection of the data showed natural variation in students' vocabulary knowledge (range =



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The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability 18 – 30), metacognitive strategy use (range = 80 – 98), and critical reading performance (range = 23 – 29). A normality test was conducted using the Shapiro-Wilk procedure for all variables. The result showed that Vocabulary Mastery ($p > 0.05$), Metacognitive Reading Strategies (> 0.05), and Critical Reading Ability ($p > 0.05$) were normally distributed. Therefore, the data met the assumptions required for conducting Pearson Product-Moment correlation and multiple regression analyses.

Scoring Procedure

In this study, the scoring procedure was designed to convert students' responses into numerical data for analytical purposes. Three instruments were used to measure Vocabulary Mastery (VM), Metacognitive Reading Strategies (MRS), and Critical Reading Ability (CRA). Vocabulary Mastery was assessed using a 30-item multiple-choice test, in which each correct response was awarded one point and incorrect responses received zero, yielding a total score ranging from 0 to 30, with higher scores indicating greater vocabulary proficiency. Metacognitive Reading Strategies were measured through a Likert-scale questionnaire, where responses were rated on a five-point scale from 1 (strongly disagree) to 5 (strongly agree), and the total score was calculated by summing all item responses, with higher scores reflecting more frequent and effective use of metacognitive strategies in reading. Critical Reading Ability was evaluated using a 30-item reading comprehension test, with one point assigned for each correct answer and zero for incorrect ones, resulting in a total score between 0 and 30, where higher scores indicated stronger critical reading ability.

Table 1. Students' Test Results

NO	RESPONDENT	TEST RESULT		
		VM	MRS	CRA
1	SAT	29	94	27
2	NRY	22	95	28
3	DDAH	26	90	28
4	CRP	25	92	26
5	ASAH	23	90	28
6	AS	26	90	22
7	AT	20	88	24
8	IM	21	84	25
9	TW	20	85	25
10	VRC	21	84	25
11	MAF	22	82	24
12	RN	21	76	20
13	KS	20	75	21
14	VAR	19	75	21
15	NNS	18	74	20
16	AR	14	82	16
17	DF	16	77	18
18	MHA	20	75	15
19	TF	15	75	19
20	ASA	18	72	18
21	AE	18	71	19
22	RPA	18	71	18
23	KAH	18	70	17
24	DSS	17	70	18
25	RRA	18	72	15
26	DYP	17	68	15
27	MI	14	70	15
28	MZR	16	65	12

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29	MAG	11	66	15
30	RFP	17	60	15

Table 2. Score Categorization Criteria of Vocabulary Mastery (VM) & Critical Reading Ability (CRA)

Score Range	Category
0-10	Low
11-20	Medium
21-30	High

Table 3. Score Categorization Criteria of Metacognitive Reading Strategies (MRS)

Score Range	Category
60-71	Low
72-83	Medium
84-95	High

Based on the established categorization criteria, students' scores were grouped into three levels: low, medium, and high. For both Vocabulary Mastery and Critical Reading Ability, scores between 0 and 10 were considered to reflect a low level of ability, scores from 11 to 20 indicated a moderate level, and scores ranging from 21 to 30 represented a high level of performance. In contrast, Metacognitive Reading Strategies were interpreted proportionally according to the Likert-scale scoring system, with scores of 60-71 indicating low strategy use, 72-83 reflecting moderate use, and 84-95 demonstrating a high level of metacognitive strategy engagement. This classification was applied to support clearer interpretation of students' performance and to provide an overall descriptive overview of the data, while all statistical analyses were conducted using the original numerical scores.

Descriptive Statistics

Table 4 indicated that students' vocabulary mastery and metacognitive strategy use fall within moderate ranges, as reflected by the mid-level means and relatively wide score distributions. Critical reading ability also shows moderate performance, with scores ranging from 12 to 28. These initial patterns suggest substantial variability among students, which supports the need to investigate how these differences relate to one another.

Table 4. Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Deviation
Vocabulary Mastery	30	11	29	19.33	3.92
Metacognitive Strategy	30	60	95	77.93	9.44
Critical Reading Ability	30	12	28	20.30	4.71

Correlation Analysis

Table 5 displays the Pearson correlation coefficients among the three variables.

Table 5. Pearson Correlation Matrix

Variable	VM	MCS	CRA
Vocabulary Mastery	1.00	0.78	0.79
Metacognitive Strategy	0.78	1.00	0.89
Critical Reading Ability	0.79	0.89	1.00

From table 5, there is strong positive correlations among all variables. The highest correlation occurs between Metacognitive Strategy and Critical Reading Ability ($r = 0.89$), indicating that students who use metacognitive strategies more frequently tend to exhibit stronger critical reading performance. Vocabulary mastery also shows a strong correlation with critical reading ability ($r = 0.79$). these results suggest that both linguistic knowledge and strategic awareness are important contributors to students' reading ability.

Regression Analysis

Table 6 summarizes the multiple regression model predicting Critical Reading Ability from Vocabulary Mastery and Metacognitive Strategies.

Table 6. Multiple Regression Coefficients Predicting Critical

V	Coefficient (β)	Std. Error	t-value	p-value
Constant	-12.53	3.41	-3.68	0.001
VM	0.29	0.16	1.84	0.077
MCS	0.35	0.07	5.25	0.000

The multiple regression analysis produced the equation $CRA = -12.53 + 0.29(VM) + 0.35(MCS)$, indicating that students' Critical Reading Ability is influenced by both Vocabulary Mastery and Metacognitive Strategies. The positive regression coefficient for Vocabulary Mastery ($\beta = 0.29$) shows that higher vocabulary knowledge tends to be associated with better critical reading performance; however, this relationship was not statistically significant ($p = 0.077$), suggesting that vocabulary mastery alone was insufficient to strongly predict students' critical reading ability in this context. In contrast, Metacognitive Strategies demonstrated a positive and statistically significant contribution to Critical Reading Ability ($\beta = 0.35$, $p < 0.001$), indicating that students who actively plan, monitor, and evaluate their reading are more capable of engaging critically with academic texts. Overall, these findings imply that while vocabulary provides essential linguistic support for understanding texts, the ability to regulate reading processes through metacognitive strategies plays a more central and decisive role in fostering critical reading ability among EFL learners.

Discussion

Vocabulary Mastery

Vocabulary mastery refers to learners' deep and flexible understanding of words – how they are formed, what they mean, and how they function across different contexts. This mastery includes both vocabulary breadth, or the number of words learners know, and vocabulary depth, which reflects how well they understand nuanced meanings and contextual use. Nation argues that vocabulary knowledge forms one of the strongest foundations for reading proficiency because lexical resources enable readers to follow complex ideas, interpret meaning, and evaluate arguments within a text. Empirical evidence strongly supports this claim. Abdullah and Mukadar, for example, show that students with stronger vocabulary mastery demonstrate significantly better reading comprehension, indicating that limited vocabulary restricts the ability to identify key information and interpret meaning effectively (Abdullah & Mukadar, 2023). Likewise, Fahrurrozi finds that vocabulary reduces cognitive load, allowing readers to construct meaning more efficiently and accurately (Fahrurrozi, 2017). Nevertheless, focusing solely on expanding vocabulary lists may overlook the need for contextual and strategic word use. Without balancing quantity and depth of understanding, vocabulary growth does not always translate into stronger critical reading abilities.

Classroom-based research further illustrates the essential role of vocabulary mastery. Pebriyanti and colleagues report that vocabulary mastery contributes more than half of the variance in students' reading comprehension scores, underscoring how central vocabulary knowledge is in shaping comprehension outcomes (Pebriyanti et al., 2024). Suparman's findings in vocational schools echo this, showing that students often struggle with identifying main ideas, drawing inferences, and understanding contextual meaning due to limited vocabulary resources (Suparman, 2022). These findings reinforce the idea that vocabulary is not simply an accessory skill but a determinant of reading success. However, these patterns also suggest a risk of overestimating vocabulary's singular role while underestimating other influential factors such as motivation, background knowledge, or text complexity. Thus, vocabulary mastery is vital, but it is not a standalone solution to improve reading comprehension.

The cognitive dimension of vocabulary is also emphasized in theoretical work. Dong et al. argue that sufficient vocabulary enables readers to construct mental models, connect ideas across paragraphs, and critically evaluate textual information - abilities essential to higher-order reading processes (Dong et al., 2020). Abdullah and Mukadar's distinction between receptive and productive vocabulary further reveals that students with stronger productive vocabulary can interpret subtle meanings, articulate arguments more clearly, and engage in deeper reasoning (Abdullah & Mukadar, 2023). Yet productive vocabulary does not automatically develop through traditional word memorization. Without intentional opportunities to apply vocabulary critically and reflectively, the potential of vocabulary depth to support complex reasoning remains largely untapped.

Overall, the evidence shows that vocabulary mastery is both a linguistic and cognitive resource that shapes how readers interpret, question, and critique texts. Students with extensive vocabulary are better able to detect assumptions, evaluate argument strength, and construct thoughtful interpretations, while those with limited vocabulary often struggle to monitor understanding or engage in deeper analysis. Even so, vocabulary mastery alone does not guarantee effective critical reading. Readers must also plan, monitor, and regulate their thinking through metacognitive strategies, which determine how efficiently vocabulary resources are applied during reading. This recognition calls for instructional approaches that integrate vocabulary development with strategic thinking, ensuring that learners not only know more words but also know how to use them to think critically. In this way, vocabulary mastery and metacognitive strategies become inseparable components of meaningful reading instruction.

Metacognitive Reading Strategies

Metacognitive strategies are defined as high-level cognitive abilities that enable individuals to "think about their thinking." The originator of this concept, (Septiani & Lubis, 2023.), established that metacognition underscores the internal mechanisms learners utilize to manage and monitor their learning processes, particularly in the context of comprehension. This cognitive control fundamentally encompasses three core domains: planning, monitoring, and evaluating comprehension. Planning involves setting goals and selecting appropriate strategies before a task begins. Monitoring refers to the continuous awareness of comprehension progress during the process, and evaluation is a retrospective judgment regarding the outcome and the effectiveness of the strategies employed.

The application of metacognitive strategies serves as a primary indicator of reading proficiency in text comprehension. As Deliany and Cahyono and Dangin have demonstrated, skilled, metacognitively aware readers actively adjust their approach based on the text's characteristics - such as its difficulty level, complexity, and type of academic material - aligning it with their specific reading goals and current self-perceived comprehension level. This strategic adjustment ensures that cognitive resources are utilized efficiently (Dangin, 2020; Deliany & Cahyono, 2020). Common strategies implemented by readers include summarizing to integrate key information, predicting future content, making connections between new and existing knowledge, regularly checking self-understanding, and revising misinterpretations detected during the monitoring process. Awareness of these strategies is crucial, especially for university students facing demanding academic texts, according to Dangin.

Analysis of Strategic Implementation: Metacognitive reading strategies are often categorized into Problem-Solving Strategies, Global Reading Strategies, and Support Strategies, a framework highlighted by Deliany and Cahyono. This categorization reveals a crucial hierarchy in reading regulation. Research by Dangin suggests that while learners may possess high overall awareness, they frequently show a dominant reliance on Problem-Solving Strategies (e.g., guessing meaning, re-reading) when faced with academic texts. This preference indicates that students often engage in reactive measures to resolve immediate comprehension breakdowns, rather than proactively utilizing the higher-order Global Reading Strategies (e.g., previewing, setting a purpose) or efficiently employing Support Strategies (e.g., note-taking, dictionary use). Therefore, pedagogical interventions should transcend merely increasing general awareness. The analytical imperative is to shift the deployment frequency, actively encouraging students to employ proactive, anticipatory Global Strategies. This shift minimizes the need for reactive troubleshooting, thereby fostering a more efficient, self-regulated, and ultimately independent approach to academic reading.

Critical Reading Ability

Critical reading is an advanced reading competency that extends beyond mere literal comprehension, involving a profound set of skills encompassing analysis, interpretation, evaluation, and response to written texts. This ability mandates the synergy of both linguistic proficiency and complex cognitive processes. Fundamentally, critical reading is predicated



The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability on the reader's capacity to analyze the logical structure of a text. This includes clearly differentiating between the claims (assertions) put forth by the author and the empirical or argumentative evidence utilized to substantiate those claims. Ennis explains that this process enables the reader to construct layered comprehension, moving from the explicit meaning to the author's implicit intentions (Setiawan et al., 2023).

Furthermore, critical reading functions as a crucial intellectual filtering mechanism. Readers are required to identify any inherent biases in the text - whether explicit or implicit - and to recognize any logical fallacies present in the argumentation, as emphasized by Setiawan et.al. This level of evaluation allows the reader to formulate reasoned judgments regarding the validity, reliability, and overall merit of the information contained within the text. In the academic context, this critical reading competence is intrinsically linked with deep reading for understanding, where readers not only grasp words and sentences but are also able to process information to draw conclusions, solve problems, and apply knowledge derived from the text to various situations, an objective supported by the findings of (Snow, 2002).

While Setiawan et.al definition of critical reading primarily focuses on the logical-rational components, it is analytically imperative to understand that this ability is not merely operational, but also an epistemological stance. Critical reading constitutes an active and self-regulatory act that enables the reader to interact skeptically and reflectively with the material. Oakhill, Cain, and Elbro conclude that this skill is highly essential for mastering academic content, as it ensures that readers can respond to texts with structured and evaluative thought, which is the ultimate aim of comprehensive reading comprehension (Oakhill, 2015.). Therefore, the greatest pedagogical challenge lies in shifting the reading instruction paradigm away from simply testing literal understanding toward developing the cognitive awareness (metacognition) that enables students to systematically interrogate the text. Critical reading, at its core, is the training of independent thinking skills, which serves as a key prerequisite for success in the academic environment.

Relationship Between Vocabulary Mastery, Metacognitive Reading Strategies and Critical Reading Ability

The relationship among Vocabulary Mastery, Metacognitive Reading Strategies, and Critical Reading Ability is hierarchical and synergistic, reflecting two primary pillars that support high-level reading processes. Fundamentally, vocabulary mastery serves as the irreplaceable linguistic foundation, supplying the lexical tools that enable initial comprehension of meaning. Nation asserts that the availability of adequate lexical resources reduces cognitive load, a prerequisite that allows readers to free up mental energy for higher-order cognitive activities, such as those demanded by critical reading (Nation, 2001.). Without a robust vocabulary foundation, readers will be stalled at the level of decoding and literal comprehension, thereby impeding their capacity to identify claims, biases, or infer implicit arguments.

However, vocabulary mastery alone does not guarantee effective critical reading ability. The need to manage and regulate the interpretation process is fulfilled by metacognitive strategies. Metacognition functions as the operating system that supervises the application of vocabulary knowledge. When readers encounter inconsistencies or challenging information, metacognitive strategies, particularly the domains of monitoring and evaluation (Bahri, 2018). These strategies enable the reader to detect fallacious arguments, assess the reliability of information, and revise erroneous interpretations - a process that is critical in the evaluative phase of critical reading. Thus, metacognition serves as the bridge that transforms passive vocabulary knowledge (as a passive asset) into active analytical skills.

Collectively, the interrelation of these three variables yields a strong predictive potential for academic proficiency. Oakhill, Cain, and Elbro conclude that the mastery of academic content relies heavily on learners' ability to respond to texts with structured and evaluative thought (Oakhill 2015.). To achieve this response, readers must possess adequate vocabulary (what must be understood) and sufficient metacognitive awareness (how to process and evaluate



The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability that understanding). Research by (Deliyan & Cahyono, 2020) further underscores this point, indicating that strong vocabulary becomes effective only when readers proactively use Global Reading Strategies to set goals, and Problem-Solving and Support Strategies to overcome remaining lexical hurdles. In other words, vocabulary mastery is the fuel, while metacognition is the navigation system essential for achieving critical reading as the pinnacle of intellectual independence.

CONCLUSIONS

The correlation coefficients found in this study indicate strong relationships between the variables, particularly between Metacognitive Reading Strategies and Critical Reading Ability ($r = 0.89$), as well as between Vocabulary Mastery and Critical Reading Ability ($r = 0.79$). These values are considered strong correlations based on commonly accepted benchmarks in educational research, where correlation coefficients above 0.50 already reflect substantial associations(Cohen, 1988). In this context, a correlation of $r = 0.89$ suggests that students who frequently apply metacognitive strategies tend to demonstrate noticeably higher levels of critical reading ability. Overall, the findings of this study reveal clear and meaningful relationships between metacognitive reading strategies, vocabulary mastery, and students' critical reading ability in an EFL context. Among these factors, metacognitive strategy use shows the strongest connection with critical reading, suggesting that students who actively plan their reading, monitor their understanding, and reflect on meaning are better able to engage with texts at a critical level. Vocabulary mastery also plays an important role, as it helps learners understand key ideas and follow complex arguments. However, the slightly weaker relationship indicates that vocabulary knowledge alone is not enough to support deeper critical engagement without effective control over the reading process. From a teaching perspective, these findings point to the value of making metacognitive strategy instruction a regular part of EFL reading classrooms. Teachers can support students by explicitly teaching how to set reading goals, check comprehension, and evaluate understanding, rather than focusing solely on vocabulary development. While building vocabulary remains essential, combining it with strategy-based reading instruction is likely to produce stronger outcomes in critical reading. For future research, studies with larger and more diverse samples are needed to confirm and extend these findings across different educational levels. In addition, qualitative approaches, such as think-aloud activities or classroom observations, could offer richer insights into how learners actually apply metacognitive strategies while reading. This would help deepen our understanding of how critical reading develops in EFL settings.

REFERENCES

Abdullah, S., & Mukadar, S. (2023). The Correlation Between Students' Vocabulary Mastery And Reading Comprehension At The Second Grade Of SMA Negeri 10 Kota Ternate. In *EDUCATUM : Scientific Journal of Education* (Vol. 01, Issue 01).

Bahri, D. S. (2018). *The correlation between students' vocabulary mastery and their reading comprehension at the seventh grade students' of MTs Daarul Ihsan. Professional Journal of English Education (PROJECT)*, 1(2), 77–84. <https://doi.org/10.22460/project.v1i2.p77-84>

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. USA: Lawrence Erlbaum Associates.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. USA: SAGE Publications.

Dangin, D. (2020). Students' Awareness of Metacognitive Reading Strategies in Academic Reading. *Journal of English Teaching and Learning Issues*, 3(1), 33. <https://doi.org/10.21043/jetli.v3i1.7145>

Deliyan, Z., & Cahyono, B. Y. (2020). Metacognitive reading strategies awareness and metacognitive reading strategies use of efl university students across gender. *Studies in English Language and Education*, 7(2), 421–437. <https://doi.org/10.24815/siele.v7i2.17026>

The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability
 Dong, Y., Tang, Y., Chow, B. W. Y., Wang, W., & Dong, W. Y. (2020). Contribution of Vocabulary Knowledge to Reading Comprehension Among Chinese Students: A Meta-Analysis. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.525369>

El Boukhrissi, M., & Brigui, H. (2025). Metacognitive Reading Strategies Awareness and Reading Achievements of Moroccan EFL Learners: An SORS-Based Study. *Universal Journal of Educational Research*, 4(4), 456–470. <https://doi.org/10.64637/635806>

Fahrurrozi. (2017). Relationship between Students' Reading Interest and Vocabulary Mastery with Reading Comprehension ability. *Proceedings of the 9th International Conference for Science Educators and Teachers (ICSET 2017)*, 118, 357–363. <https://doi.org/10.2991/icset-17.2017.59>

Farida, A. N., & Rosyidi, M. I. (2019). Students' Writing Quality: Its Coherence and Cohesion. In *Language Circle: Journal of Language and Literature* (Vol. 14, Issue 1). <https://doi.org/10.15294/lc.v14i1.21505>

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906–911. <https://doi.org/10.1037/0003-066X.34.10.906>

Hacker, D. J., Dunlosky, J., & Graesser, A. C. (Eds.). (2009). *Handbook of metacognition in education*. New York, NY: Routledge.

Husna, Z., Susanti, R., Wahyuni, S., & Rukmini, D. (2025). The Impact of Cognitive and Metacognitive Reading Strategies on EFL Students' Reading Comprehension. *LANGUAGE CIRCLE: Journal of Language and Literature*, 19(2). <https://journal.unnes.ac.id/journals/LC>. <https://doi.org/10.15294/lc.v19i2.21061>

Laak, K.-J., & Aru, J. (2025). AI and personalized learning: bridging the gap with modern educational goals. *Educational Technology & Society*, 28(4). [https://doi.org/10.30191/ETS.202510_28\(4\).RP08](https://doi.org/10.30191/ETS.202510_28(4).RP08)

Levchyk, I., Chaikovska, H., Mazur, O., Adamska, Z., & Zakordonets, N. (2022). The Impact of Metacognitive Reading Strategies on Master Students' EFL Reading Proficiency and Academic Achievement. *Acta Paedagogica Vilnensis*, 48, 26–46. <https://doi.org/10.15388/ActPaed.2022.48.2>

Maab, S. H., Ramadhanti, S. F., Payung, N. F., & Yulia, Y. (2024). Critical Thinking in Academic Reading: EFL Students' Perceptions and Challenges. *Voices of English Language Education Society*, 8(1), 206–219. <https://doi.org/10.29408/veles.v8i1.25096>

Manihuruk, D. H. (2020). The Correlation between EFL Students' Vocabulary Knowledge and Reading Comprehension. *JET (Journal of English Teaching)*, 6(1), 86–95. <https://doi.org/10.33541/jet.v6i1.1264>

McKay, S. L. (2009). *Researching Second Language Classrooms*. New York: Routledge.

Mokhtari, K., & Reichard, C. A. (2002). Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology*, 94(2), 249–259. <https://doi.org/10.1037/0022-0663.94.2.249>

Nation, I. S. P. (2001). *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press.

Oakhill, J., Perfetti, C. A., Landi, N. (2005). *The Science of Reading: A handbook*. Oxford: Blackwell.

Pahrizal, N., Vintoni, A., Sotlikova, R., & Ya'akub, H. Z. H. (2025). Metacognitive Reading Strategies and Their Impact on Comprehension: Insights from Rural EFL Learners. *Indonesian Journal on Learning and Advanced Education (IJOLAE)*, 18–36. <https://doi.org/10.23917/ijolae.v7i1.23908>

Pebriyanti, N. P., Ratminingsih, N. M., & Santosa, M. H. (2024). The Correlation Between Metacognitive Reading Strategies, Vocabulary Mastery and Reading Comprehension of The Ninth-Grade Students In SMP Negeri Hindu 2 Payangan. In *Bahasa dan Sastra* (Vol. 10, Issue 1). Pendidikan. <https://e-journal.my.id/onomatopoeia.v10i1.3076>. <https://doi.org/10.30605/onomatopoeia.v10i1.3076>

Schmitt, N. (2010). *Researching Vocabulary: A Vocabulary Research Manual*. London: Palgrave Macmillan.

Septiani, D., & Lubis, A. A. (n.d.). Metacognitive Strategies Employed by English Students in



The Correlation Between Students' Vocabulary Mastery and Metacognitive Reading Strategies on Students' Critical Reading Ability Reading Comprehension. Journal of English Education and Teaching, 7(4), 1009–1022.
<https://doi.org/10.33369/jeet.7.4.1009-1022>

Setiawan, A., Thi Thu Hang, N., & Tegar Derana, G. (2023). Critical reading research and its implications for critical reading skills for Indonesian language teachers: A systematic literature review. *Bahastra*, 43(2), 152–182. <https://doi.org/10.26555/bahastra.v43i2.500>

Snow, C. E. . (2002). *Reading for understanding : toward an R & D program in reading comprehension*. USA: Rand Coorportion

Suharni, S., Sesmiyanti, S., Perpisa, L., & Putri, A. (2024). Metacognitive Reading Strategies of EFL University Students. *Journal of English Language and Education*, 9(4), 198–204. <https://doi.org/10.31004/jele.v9i4.538>

Suparman, U. (2022). Correlational study of vocabulary mastery and cognitive learning style in vocational school. *Journal of English Language Teaching Innovations and Materials (Jeltim)*, 4(1), 102. <https://doi.org/10.26418/jeltim.v4i1.33159>

Wallace, C. (2003). *Critical Reading in Language Education*. London: Palgrave Macmillan.