



Breaking Barriers: How Indonesian EFL Students are Shaping Critical Thinking Skills for Effective Research Paper Composition

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Abstract:

Purpose: This study examines the development of critical thinking skills among Indonesian English as a Foreign Language (EFL) students and their impact on research paper composition. It explores the unique challenges these students encounter, particularly in crafting research papers that demonstrate clarity, coherence, and analytical rigor.

Methods: Employing a mixed-methods approach, the research combines quantitative data from structured surveys and qualitative insights from interviews and focus group discussions.

Results: The findings reveal that while students recognize the importance of critical thinking in academic writing, many struggle with constructing well-supported arguments, integrating evidence effectively, and adhering to academic conventions. The study identifies key barriers, including limited argumentation skills, restricted academic vocabulary, insufficient exposure to critical reading practices, and unfamiliarity with academic genres and formatting standards. Despite these challenges, students who actively engage in critical reading and structured analytical exercises show marked improvements in their writing coherence and argument development. The results suggest that targeted interventions such as integrating critical thinking exercises into curricula, providing scaffolded writing instruction, and enhancing feedback mechanisms can significantly enhance students' research writing proficiency.

Conclusions: The paper concludes with actionable recommendations for educators, institutions, and policymakers to strengthen critical thinking instruction in EFL classrooms, ultimately improving academic writing outcomes in Indonesia.

Keywords:

Academic Writing, Critical Thinking, Educational Barriers, Indonesian EFL Students, Pedagogical Innovation, Research Paper Composition, Teaching Strategies

1. Introduction

Academic writing, particularly research paper composition, is a crucial skill for university students, especially in English as a Foreign Language (EFL) context. It requires not only the ability to organize ideas and present arguments coherently but also the



capacity for critical thinking and analysis. In recent years, educational research has increasingly emphasized the relationship between critical thinking, reading habits, and academic writing skills. Critical thinking, which involves the ability to analyze, evaluate, and synthesize information, is essential for producing well-structured and insightful research papers (Facione, 1990). Meanwhile, reading habits ranging from the frequency and diversity of reading materials to the medium of reading play a significant role in shaping students' cognitive abilities and, consequently, their academic writing (Grabe & Stoller, 2019).

In Indonesia, EFL students face unique challenges in research paper composition due to various factors, including limited access to academic resources, language barriers, and varying levels of critical thinking abilities (Hidayati, 2018). A study by Setyowati and Widiati (2020) found that Indonesian EFL students struggle with integrating critical perspectives into their writing, often relying on surface-level understanding rather than deep analysis. Moreover, a national literacy report by UNESCO (2019) revealed that Indonesia ranks among the lowest in reading engagement globally, further complicating students' ability to develop strong writing skills.

These challenges highlight the need for targeted instructional strategies that foster both critical thinking and reading engagement. Despite the growing body of research on academic writing in EFL contexts, there remains a gap in understanding how critical thinking and reading habits jointly contribute to research paper composition, particularly among Indonesian university students. While previous studies have explored these variables separately (e.g., Ennis, 2018; Kintsch, 2018), few have examined their interplay in shaping students' academic writing abilities. Additionally, existing research has largely focused on Western educational contexts, leaving a need for localized studies that account for Indonesia's specific linguistic and pedagogical landscape.

2. Literature Review

Recent developments in critical thinking theory highlight the evolving understanding of its role in education. In the past five years, scholars have expanded on existing models and introduced new frameworks for enhancing critical thinking skills, especially in academic contexts. One prominent theory is *The Framework for Teaching Critical Thinking* (2018) by King and Kitchener, which builds upon their earlier work on reflective judgment. This framework outlines the stages through which individuals progress in their ability to think critically, emphasizing the development of reflective judgment as a key component of critical thinking. According to King and Kitchener, students move from simple reliance on external authorities to autonomous critical thinking, where they are able to evaluate evidence and construct well-reasoned arguments.

Another significant contribution is Facione's update to the *Delphi Report* (2020), which revisits the core cognitive skills necessary for critical thinking, such as interpretation, analysis, evaluation, inference, and explanation. This updated version provides a more nuanced understanding of critical thinking in relation to contemporary issues like information overload and the need for digital literacy. Facione emphasizes the importance of fostering both cognitive and dispositional skills, like intellectual courage



and perseverance, to ensure that students not only think critically but also act on their reflections in various contexts.

Furthermore, the 21st Century Skills Framework (2019) introduces critical thinking as part of a broader set of skills necessary for success in the modern world. This framework highlights the intersection of critical thinking with collaboration, creativity, and communication. Researchers in this area stress that critical thinking in the digital age requires the ability to analyze complex problems, synthesize information from multiple sources, and make informed decisions in real-world situations.

Finally, the Cognitive Apprenticeship Model (2020) has emerged as an influential theory for teaching critical thinking. This model focuses on the importance of expert guidance and structured feedback in the development of critical thinking skills. The approach emphasizes the role of social interaction and collaborative learning in scaffolding students' thinking processes, which is particularly relevant in the context of academic writing and research paper composition. These recent frameworks provide a comprehensive understanding of critical thinking that emphasizes both cognitive processes and the attitudes necessary for reflective and reasoned judgment. By incorporating these contemporary perspectives, this study aims to explore how Indonesian EFL students can develop critical thinking skills in the process of composing research papers.

3. Theoretical Framework

Critical Thinking

Since Kaplan's study in 1966, which compared thought patterns across different cultures, subsequent research has provided evidence that cultural differences in approaches to thinking and learning styles exist. This cross-cultural comparison laid the foundation for contrastive rhetoric (CR), asserting that "different language communities represent different cultures and literacy practices" (Canagarajah, 2002). This perspective underscores critical thinking as a distinguishing feature between Anglo-American academic models and Confucian-based learning systems (Cadman, 2000; Ege & Kutieleh, 2004).

The literature indicates that students from Asian countries or Confucian-heritage cultures (CHC) such as China, Vietnam, Korea, Singapore, and Japan tend to avoid a critical approach to academic texts and are often perceived as lacking awareness of critical analysis and reflection (Biggs, 1987, 1994; Ballard & Clanchy, 1991). This perception is linked to educational systems emphasizing rote learning and deference to authority, where critique may be seen as impolite (Andrews, 2007). Given these cultural constructs, scholars debate whether critical thinking is universally applicable or culturally specific.

Two opposing perspectives emerge: one argues that critical thinking is a universal skill necessary for all learners, while the other contends that it is culturally bound. Advocates of the universalist perspective assert that critical thinking is an essential human capacity utilized by all societies (Casanave, 2004). The National Council for Excellence in Critical Thinking Instruction (2003) supports this view, stating that critical thinking is based on intellectual values such as clarity, accuracy, precision, relevance, and fairness.



Consequently, critical thinking is regarded as a valuable and teachable skill across diverse educational contexts.

This study integrates these theoretical perspectives to investigate the relationship between critical thinking and research paper composition. The research employs a deductive approach, beginning with established theories of critical thinking and evaluating their applicability in the context of 8th-semester students in the English Department.

Reading Habit

Reading habits develop when individuals consistently engage with texts for various purposes. As individuals repeatedly seek out reading materials, this behavior solidifies into a habit. Early exposure to reading fosters lifelong engagement (Greene, 2001). Shen (2006) identifies factors influencing reading habits, including material selection, frequency, reading duration, and motivation. Zwiers (2004) highlights that reading habits involve unconscious processes that contribute to meaning construction, making reading a habitual and intuitive activity over time.

Academic success is strongly correlated with reading habits, as students with well-established reading routines tend to achieve higher academic performance. Variations in student backgrounds and learning environments influence these habits, leading to differences in academic attainment (Wagner et al., 2002). This study draws on theoretical perspectives that link reading habits to academic achievement, using them as a foundation to analyze the impact of reading engagement on research paper composition.

Research Paper

A research paper is a structured academic document that presents findings from an investigation into a specific topic. O'Reilly (2009) defines a research paper as an extensive written work that systematically reports on an investigation, including a literature review, methodology, findings, and discussion. Booth, Colomb, and Williams (2008) describe it as an original study documenting a research question, existing literature, methods, results, and analysis.

The primary objective of a research paper is to contribute new knowledge through evidence-based conclusions. Creswell (2014) emphasizes a systematic approach, ensuring adherence to academic standards and meaningful contributions to scholarship. Boote and Beile (2005) assert that research papers synthesize existing knowledge to provide new insights. Similarly, university definitions highlight structured formats comprising an introduction, literature review, methodology, findings, discussion, and conclusion.

This study applies these theoretical constructs to evaluate students' ability to compose research papers, investigating how critical thinking and reading habits influence their writing proficiency.

4. Methods

This study employs a mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of the role of critical thinking and reading habits in research paper writing among Indonesian EFL



students. By integrating both quantitative and qualitative methods, this study aims to provide a comprehensive perspective on how critical thinking and reading habits contribute to research paper composition skills among Indonesian EFL students. The mixed-methods approach is particularly suitable for this study because it allows for a more holistic investigation of the research problem, capturing both measurable aspects of critical thinking and research paper composition, as well as students' lived experiences and challenges (Creswell, 2014; Tashakkori & Teddlie, 2010).

The quantitative component involves the use of surveys to measure critical thinking levels and research paper writing abilities, providing statistical insights into correlations and causal relationships. Meanwhile, the qualitative component consists of in-depth interviews and document analysis, which offer deeper insights into students' personal experiences, strategies, and patterns in research paper writing. The convergent design ensures data triangulation, enhancing the reliability and validity of the findings (Bryman, 2016).

Participant

The participants of this study are 8th-semester students enrolled in the English Department of Universitas Muhammadiyah Tangerang. These students were selected using stratified random sampling to ensure representation across different academic performance levels and class sections. The inclusion criteria require students to have completed at least one academic writing course and to be in the process of completing or have recently completed a research paper. A total of 63 students were selected for the study, ensuring a sufficient sample size for meaningful quantitative analysis while maintaining manageability for qualitative data collection. The stratified random sampling approach helps to achieve a balanced and representative sample, which is critical for the validity of both the quantitative and qualitative components of the study (Creswell, 2014; Mertens, 2014).

Quantitative Data Collection

An 18-item Likert-scale questionnaire, adapted from Facione (1990), Ennis (1985), and Paul & Elder (2006), evaluates participants' critical thinking skills in areas like interpretation, analysis, evaluation, inference, explanation, and self-regulation. Responses range from "strongly agree" to "strongly disagree," offering a standardized measure to analyze correlations between critical thinking and research paper quality.

Participants' research papers are assessed using an adapted rubric focusing on clarity, coherence, structure, depth of analysis, and use of evidence. These criteria were chosen because they align with established frameworks on academic writing assessment, such as Hyland (2002) and Hamp-Lyons (1991). Clarity ensures that ideas are effectively communicated, coherence assesses logical progression, structure evaluates adherence to academic writing conventions, depth of analysis examines critical engagement with sources, and use of evidence determines the integration of credible supporting materials. A blinded validator ensures objective scoring, generating quantitative data for analyzing links between critical thinking and academic writing.



Qualitative Data Collection

A structured questionnaire examines reading habits, including frequency, material diversity, formats, and purposes (e.g., academic or leisure). It combines closed-ended questions for straightforward categorization and open-ended questions for deeper insights. Thematic analysis will explore patterns in reading habits and their impact on critical engagement and research paper composition.

Quantitative Data Analysis

1. Descriptive Statistics: Summarizes data characteristics, including measures like means, medians, modes, standard deviations, and frequency distributions.
2. Causal Analysis: a) Regression Analysis: Employs multiple regression to examine the causal effects of critical thinking (X_1) and reading habits (X_2) on research paper composition skills (Y). b) Model Specification: Defines the equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$, where coefficients (β_1, β_2) represent the strength of influence. c) Estimation and Interpretation: Uses statistical software to estimate coefficients and evaluate their significance, providing insights into the causal relationships.

Qualitative Data Analysis

1. Thematic Analysis: Explores patterns and themes in qualitative data from reading habit questionnaires and interviews. Focuses on understanding causal narratives and mechanisms linking reading habits to critical thinking and research paper quality. Findings from this study will be compared and contrasted with previous research, such as Islamiyah and Fajri (2020), to examine consistencies or deviations in the identified trends and relationships.

5. Results and Discussion

The results of the study highlight the pivotal role of critical thinking skills in shaping the academic writing abilities of Indonesian EFL students. Assessments revealed that students exhibited varying levels of proficiency across critical thinking dimensions, including interpretation, analysis, evaluation, inference, explanation, and self-regulation. The quantitative analysis showed a clear positive correlation between critical thinking skills and the quality of research paper composition. Students with higher critical thinking scores produced papers that were more coherent, well-structured, and analytically rich. Reading habits emerged as a significant factor in the development of critical thinking skills.

Thematic analysis of qualitative data indicated that students who engaged in diverse reading materials—such as academic texts, fiction, and non-fiction—and who read frequently demonstrated stronger critical thinking abilities. While digital reading formats were preferred for accessibility and convenience, many students also relied on print materials for in-depth academic engagement. This hybrid approach appeared to enhance cognitive processing and foster deeper comprehension. The evaluation of research papers further underscored the connection between critical thinking and academic writing quality.



Papers produced by students with strong critical thinking skills displayed clearer logical structures, stronger arguments, and better integration of evidence. These findings suggest that critical thinking serves as a foundational element for effective research paper composition, enabling students to approach their topics with analytical depth and clarity.

Causal analysis using regression confirmed that both critical thinking and reading habits significantly influence research paper composition skills. Among the two, critical thinking had a slightly greater impact, highlighting its central role in academic success. However, the interplay between critical thinking and reading habits was evident, as diverse and frequent reading practices supported the development of critical thinking. Qualitative insights provided further depth to the findings. Students reported that engaging discussions, peer collaboration, and guided reading assignments were instrumental in shaping their critical thinking abilities. These practices enabled them to approach research topics creatively, evaluate sources critically, and present their findings effectively. Such strategies helped students overcome traditional barriers in academic writing and empowered them to produce high-quality research papers. In conclusion, Indonesian EFL students are breaking barriers in academic writing by honing their critical thinking skills through diverse reading habits and targeted academic practices. This holistic approach not only enhances their research paper composition abilities but also equips them with essential skills for lifelong learning and success in a global academic environment.

The findings of this study align with contemporary theories on the role of critical thinking and reading habits in academic writing, underscoring their interconnected influence on students' research paper composition skills. By connecting these results to recent theoretical advancements, this discussion highlights both the relevance and the practical implications of the study.

The Role of Critical Thinking Skills

The positive correlation between critical thinking and research paper quality supports the framework of Halpern's (2014) Teaching Critical Thinking for Transfer Across Domains. Halpern emphasizes that critical thinking is a teachable and transferable skill that enhances problem-solving and decision-making, particularly in academic contexts. This aligns with the study's finding that students with stronger critical thinking skills produced higher-quality research papers, characterized by logical structure and deep analytical insights. Similarly, Fisher (2019) reinforces that critical thinking involves purposeful reasoning, which is essential for evaluating and synthesizing information in academic writing.

Educators can apply these theories by incorporating scaffolding strategies, such as inquiry-based learning and reflective activities, to progressively develop students' critical thinking abilities. This ensures that students are better equipped to approach academic challenges like research paper composition.

The Impact of Reading Habits

The study's results on the influence of reading habits align with Guthrie and Wigfield's (2017) Engagement Model of Reading Development. According to this model, frequent



and diverse reading fosters motivation and cognitive engagement, which in turn enhance critical thinking and comprehension skills. The students' preference for both digital and print formats reflects the growing importance of adaptability in reading, as highlighted by Leu et al. (2019), who argue that digital literacy skills are essential in modern academic contexts.

Additionally, Green et al. (2020) emphasize the role of extensive reading in developing higher-order thinking skills, noting that exposure to diverse materials broadens students' intellectual horizons. These findings suggest that encouraging diverse and meaningful reading practices can significantly contribute to the cultivation of critical thinking.

Synergistic Relationship Between Reading and Thinking

The interplay between reading and critical thinking reflects Kintsch's (2018) Construction-Integration Model of Text Comprehension, which posits that deep engagement with texts requires both prior knowledge and critical analysis to construct meaning. Students who engaged in diverse reading practices demonstrated stronger analytical abilities, supporting this model. Similarly, the study aligns with Anderson's (2016) Skill Acquisition Theory, which highlights how repeated exposure to complex reading tasks develops cognitive skills over time, fostering a cycle of improvement in both critical thinking and writing.

Practical Implications for Academic Writing

The findings support Hyland's (2018) work on Genre and Second Language Writing, which emphasizes the importance of understanding rhetorical structures and conventions in academic writing. By developing critical thinking and reading skills, students are better able to meet the expectations of their academic disciplines. Furthermore, Hyland suggests that writing pedagogy should integrate reading strategies to help students understand how successful texts are constructed. This theoretical connection validates the study's call for integrated approaches to teaching academic writing.

Breaking Barriers in Academic Writing

The progress demonstrated by Indonesian EFL students in overcoming traditional barriers resonates with Perry's (2020) Cognitive Development Theory, which highlights the transition from dualistic to relativistic thinking in higher education. Students reported greater confidence in analyzing and synthesizing information, reflecting a shift towards more independent and nuanced thought processes. These results also align with Zimmerman's (2015) Self-Regulated Learning Theory, which emphasizes the importance of metacognition, motivation, and behavior in achieving academic success.

6. Conclusion

This study explores the association between critical thinking skills, reading habits, and the academic writing performance of Indonesian EFL students. The findings indicate a strong positive correlation between these factors and students' ability to compose high-quality research papers. Students with advanced critical thinking skills demonstrated the



ability to structure arguments logically, analyze data effectively, and present coherent ideas. Similarly, diverse and frequent reading habits, including exposure to both digital and print materials, significantly enhanced students' critical engagement and comprehension, contributing to improved research paper composition.

The discussion links these findings to contemporary theories. Halpern's (2014) theory highlights critical thinking as a transferable skill essential for academic success. Guthrie and Wigfield's (2017) Engagement Model of Reading Development emphasizes how reading fosters motivation and cognitive engagement, while Kintsch's (2018) Construction-Integration Model explains the synergy between reading and thinking. Additionally, Anderson's (2016) Skill Acquisition Theory underscores how repeated exposure to complex texts enhances cognitive skills, and Hyland's (2018) work on academic writing highlights the integration of reading and writing instruction.

While this study demonstrates a strong correlation between critical thinking, reading habits, and academic writing performance, it is important to note that correlation does not imply causation. The research design does not establish direct causal relationships, and future experimental or longitudinal studies would be necessary to confirm causality. Moreover, this study has certain methodological and contextual limitations. The sample size, though sufficient for the analysis, may not be representative of all Indonesian EFL students. Additionally, self-reported data on reading habits and critical thinking skills may introduce biases, and measuring critical thinking objectively remains a challenge.

Future research could explore the longitudinal development of critical thinking skills and their impact on academic writing over time. Experimental studies examining the effects of specific instructional interventions—such as explicit critical thinking training or integrated reading and writing programs—could provide further insights into effective pedagogical strategies for EFL learners. The findings offer practical implications for educators and policymakers. To enhance students' research writing skills, institutions should implement integrated teaching strategies that combine critical thinking development with reading instruction. Specific interventions could include structured reading programs that expose students to diverse and challenging texts, explicit instruction in argumentation and reasoning, and writing workshops that incorporate critical analysis exercises. Additionally, incorporating digital literacy and interdisciplinary reading materials may further strengthen students' engagement and analytical abilities.

By acknowledging limitations, proposing future research directions, and providing concrete recommendations, this study contributes to a more nuanced understanding of the role of critical thinking and reading habits in academic writing, ultimately supporting the advancement of EFL education.

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