

Critical Thinking in EFL Students' Argumentative Writing: Manifestations and Challenges

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Abstract

Critical thinking (CT) is widely recognized as an essential component of academic writing, yet EFL students often struggle to apply it effectively in argumentative essays. While previous studies have examined correlations between CT and writing quality or evaluated teaching interventions, less is known about how CT actually manifests in students' written work and the challenges they encounter in real writing contexts. This study addresses this gap by exploring both the textual indicators of CT and students' lived experiences of integrating it into their essays. The study involved 27 fifth-semester English education majors at a private university in Jakarta, Indonesia, with English proficiency ranging from intermediate to pre-advanced. Data were collected through two argumentative writing tasks, a focus group discussion, and document analysis. Thematic analysis and structured coding were used to identify CT indicators and challenges, with findings triangulated across data sources. Results showed that students demonstrated CT through coherent argumentation, use of evidence, engagement with counter-arguments, and organized essay structure. However, they struggled with organizing complex ideas, synthesizing information from multiple sources, and balancing creativity with logical reasoning, leading to disjointed arguments and superficial use of evidence. The study highlights the gap between theoretical CT standards and their practical application in EFL writing, underscoring the need for targeted instruction in argument structuring, source evaluation, and counter-argumentation.

Keywords: Critical thinking, argumentative writing, EFL students, writing instruction.

INTRODUCTION

Despite being widely recognized as an essential higher-order skill, critical thinking (CT) remains one of the most challenging competencies for university students to master, particularly in English as a Foreign Language (EFL) context (Petek, 2018; Saleh, 2019; Zhang et al., 2020; Zhao et al., 2016). In many EFL classrooms, writing instruction continues to emphasize grammatical accuracy, vocabulary development, and rigid adherence to prescribed formats, which can limit opportunities for fostering analytical reasoning and evaluative judgment (Hyland & Hyland, 2019; Teng, 2021; Yang & Gamble, 2013). This

emphasis often results in student writing that is formally correct but lacks logical reasoning, nuanced argumentation, and engagement with multiple perspectives (Manalo & Sheppard, 2016; Phyu, 2024; Shirkhani & Fahim, 2011). The problem is particularly acute in argumentative writing, a genre that demands CT through the formulation of defensible claims, integration of credible evidence, engagement with counter-arguments, and coherent organization of ideas into a persuasive whole (Nussbaum & Edwards, 2011; Wingate, 2012). For EFL learners, these demands are compounded by limited linguistic resources, minimal exposure to authentic argumentative discourse, and educational traditions that prioritize memorization and authority acceptance over critical inquiry (McKinley & Rose, 2022; Othman & Lo, 2023; Zhang & Zhang, 2021). Consequently, even when students acknowledge the importance of CT, they frequently produce arguments that are logically inconsistent, insufficiently supported, or narrowly framed (Ennis, 2018; Phyu, 2024; Jiang et al., 2024; Ghanbari & Salari, 2022).

Understanding why CT proves so difficult to integrate into EFL students' academic writing requires a clear conceptualization of the construct itself. CT has been widely recognized as a core competency in higher education and is increasingly viewed as indispensable for students navigating the intellectual demands of academic and professional life (Bezanilla et al., 2019; Dwyer et al., 2014). It is generally defined as the disciplined process of actively and skillfully conceptualizing, analyzing, synthesizing, and evaluating information to guide belief and action (Elder & Paul, 2020; Ennis, 2018; Mulnix, 2010). This process encompasses not only cognitive skills such as interpretation, analysis, and inference, but also affective dispositions, including open-mindedness, truth-seeking, and a willingness to reconsider one's views when presented with compelling evidence (Zhao et al., 2016; Halpern, 2014; Stapleton, 2010). Within academic communication, CT ensures that ideas are not only clearly articulated but also logically consistent, substantiated by credible evidence, and responsive to alternative perspectives (Davies & Barnett, 2015; Hyland & Hyland, 2019; Manalo & Sheppard, 2016; McKinley & Rose, 2022). In the specific context of student writing, CT transforms a piece of text from a simple collection of statements into a coherent and persuasive argument that reflects both intellectual rigor and evaluative judgment (Shirkhani & Fahim, 2011; Wingate, 2011).

In English as a Foreign Language (EFL) context, developing and applying critical thinking (CT) in writing presents distinctive challenges. Writing in a second or foreign language requires learners to manage the dual demands of linguistic accuracy—covering grammar, vocabulary, and syntactic complexity—and discourse-level competence, including organization, coherence, and cohesion (Zhang & Zhang, 2024; Sun & Zhang, 2022; Wang & Xie, 2022; Yang & Sun, 2011; Aldera, 2016). Cultural rhetorical norms can further influence argument construction; in contexts where indirectness, deference to authority, or collective consensus are valued, students may be less accustomed to openly challenging ideas or presenting strong rebuttals, both of which are central to CT in argumentative writing (Islamiyah & Fajri, 2020; Rusfandi, 2015; Zhang & Zhang, 2021). The demands of argumentative writing mirror the core components of CT, including logical reasoning, evaluation of information, recognition of multiple perspectives, and synthesis of ideas into a coherent whole. However, for EFL learners, these cognitive and rhetorical requirements are compounded by limited exposure to authentic argumentative texts, insufficient practice in sustained written argumentation, and inadequate training in evaluating sources,

synthesizing information, and organizing complex ideas (Li, 2024; Shukri et al., 2014; Zhang & Kang, 2022). Given this intersection of challenges, the study of CT in EFL argumentative writing is particularly important. Argumentative writing not only reveals the extent to which students can apply CT skills in a tangible, assessable form, but it also exposes the specific barriers—both cognitive and linguistic—that may impede their full development.

Recent studies on critical thinking (CT) in EFL writing instruction have examined diverse approaches to enhancing students' CT skills within academic contexts (Hu & Saleem, 2023; Phyu, 2024). Quantitative evidence from Hu and Saleem's (2023) study with 156 Chinese Grade 12 students showed that CT dispositions such as truth-seeking, cognitive maturity, analyticity, and justice were positively correlated with English argumentative writing (EAW) proficiency, although their work did not explore how these traits were enacted in actual writing. Complementing this, Phyu (2024) used qualitative interviews with five Hungarian university EFL tutors to identify classroom strategies—including guided writing, peer revision, and the Toulmin model—while noting institutional constraints such as limited CT exposure and mixed proficiency levels, but without analyzing students' written texts. Other studies have assessed intervention-based approaches: Abdelrahim (2023) found that Saudi undergraduates receiving augmented reality (AR)-based critical analysis instruction significantly improved in both CT and writing quality, yet the focus remained on technological impact rather than learners' specific difficulties in applying CT. Using Paul and Elder's framework, Lu and Xie (2019) demonstrated that Chinese tertiary EFL students in a CT-oriented course outperformed peers in coherence and CT skills. In Indonesia, Safitri and Adani (2024) reported that few students' essays displayed unity of ideas or structured reasoning, while Murtadho's (2021) action research with 88 students showed metacognitive and CT-focused cycles improved coherence, grammar, and argumentation. Similarly, Susilo et al. (2021) applied the CIRC technique with 64 EFL students, enhancing CT and self-voicing through successive drafts and active classroom participation.

Although research on critical thinking (CT) in EFL writing has produced valuable insights into instructional practices, learner dispositions, and the impact of targeted interventions, most studies either emphasize correlations between CT traits and writing performance or evaluate the outcomes of specific teaching approaches without showing how CT is actually demonstrated in students' written work. Investigations into teachers' strategies and systemic constraints have also advanced understanding but often omit the learner's perspective on applying CT in authentic argumentative writing tasks. Even when intervention-based research reports gains in CT and writing quality, it rarely addresses the cognitive and structural difficulties students encounter when transferring CT skills into complex academic texts. Addressing these limitations, the present study focuses on both the observable manifestations of CT in EFL university students' argumentative essays and the cognitive and structural challenges that shape their written output. Combining textual analysis with students' own accounts of their writing experiences creates a more integrated picture of what CT looks like in practice while revealing why certain dimensions remain underdeveloped. This dual perspective advances current scholarship and offers practical insights for designing more effective pedagogical strategies to strengthen EFL students' argumentative writing proficiency.

METHOD

This study adopted a qualitative research design, an approach widely recognized for its suitability in investigating complex, context-dependent phenomena and generating rich, descriptive insights (Creswell & Poth, 2018; Merriam & Tisdell, 2016). The design was deemed appropriate for exploring how critical thinking (CT) manifests in the argumentative writing of English as a Foreign Language (EFL) students and for identifying the challenges they encounter in applying CT in their academic work. Qualitative inquiry facilitated a nuanced examination of students' cognitive and rhetorical processes, capturing how they structured arguments, integrated evidence, and addressed counter-arguments, while also revealing barriers such as organizing complex ideas and synthesizing information from multiple sources (Miles et al., 2020; Saldaña, 2021).

Given the exploratory nature of the research questions, qualitative methods were selected for their capacity to capture contextually grounded meanings and emergent patterns that may not be accessible through quantitative approaches (Patton, 2015; Denzin & Lincoln, 2018). Data were collected through semi-structured interviews, a focus group discussion (FGD), and document analysis, enabling methodological triangulation to strengthen the credibility and trustworthiness of findings (Fusch et al., 2018). The study was conducted within a constructivist paradigm, which emphasizes the co-construction of knowledge, recognition of multiple realities, and the interpretive role of the researcher (Charmaz, 2014), ensuring that interpretations remained grounded in the lived experiences of EFL students while being informed by established qualitative research frameworks.

The participants comprised 27 fifth-semester university students enrolled in an essay writing course at a private university in Jakarta, Indonesia, all majoring in English education—a cohort considered well-suited for examining the integration of critical thinking (CT) into academic writing due to their disciplinary orientation and academic progression. Purposive sampling was employed to deliberately select individuals with information-rich characteristics aligned with the study's objectives, a strategy widely recognized for its effectiveness in qualitative inquiry (Etikan et al., 2016). Eight participants were male. The sample size was consistent with established recommendations for qualitative research, prioritizing depth and contextual richness over breadth to enable detailed exploration of individual and collective experiences (Creswell & Poth, 2018; Guest et al., 2020). While the group's homogeneity—students from the same academic program and semester—may limit the generalizability of findings, it enhanced the internal coherence of the dataset and facilitated focused analysis within a shared instructional context (Ritchie et al., 2014). Participation was voluntary, informed consent was obtained in accordance with recognized ethical guidelines, and all personal identifiers were anonymized, with data managed in compliance with established confidentiality and data protection protocols (Israel & Hay, 2006).

Data were collected through three complementary qualitative methods—writing tasks, a focus group discussion (FGD), and document analysis—to enable methodological triangulation and enhance the credibility and dependability of findings (Denzin, 2012; Flick, 2018). The writing tasks were designed to elicit students' argumentative writing and observable applications of CT skills within authentic higher-education contexts. Following an introductory session on argumentative essay models, each student produced two essays during the semester, each on a distinct topic chosen from a curated list (e.g., "Should

homework be given to school children?"; "Should the National Examination be abolished in high schools?"). These topics were purposefully selected to stimulate structured reasoning, evidence integration, and engagement with counter-arguments, reflecting academic writing demands characteristic of university-level coursework. The inclusion of both oral (FGD) and written (essays) data sources allowed for cross-validation of findings and deeper insight into students' reasoning processes, aligning with best practices in qualitative educational research.

The FGD, conducted after the second writing task to ensure participants had adequate experience, explored students' perceptions, challenges, and strategies in applying CT to argumentative writing. All 27 participants attended a single session facilitated by the researcher, following pre-developed open-ended guiding questions to maintain focus and minimize facilitator influence (Krueger & Casey, 2015). Confidentiality was assured, and participants were informed that responses would not affect academic standing. With consent, the discussion was audio-recorded and transcribed verbatim to preserve data accuracy (Braun & Clarke, 2022). The group format encouraged peer interaction, fostering co-construction of meaning and generating insights that might not emerge in individual interviews.

Document analysis of students' essays was undertaken to identify CT manifestations, focusing on argument structure, coherence, evidence use, and counter-argument engagement. Analysis followed predefined criteria assessing logical flow, clarity of claims, and depth of critical engagement. The integration of FGD and document analysis enabled methodological triangulation, strengthening the credibility of findings (Patton, 2015; Flick, 2018). FGD data were analyzed using thematic analysis (Braun & Clarke, 2022), chosen for its adaptability in identifying nuanced patterns and generating contextually grounded insights (Nowell et al., 2017). The six-phase process involved familiarization, coding, and clustering codes into broader themes such as logical reasoning, evidence integration, and counter-argument engagement. Coding was independently conducted by the researcher and a co-researcher, with intercoder reliability achieved through negotiated agreement. An expert in EFL writing and qualitative methods reviewed the thematic framework for conceptual clarity and relevance. Students' essays were systematically coded to identify CT manifestations and recurrent challenges, guided by categories derived from the research objectives and established CT assessment frameworks. Coding categories were refined through iterative reading and expert feedback, with a subset of essays cross-checked by the co-researcher to verify reliability. Both analyses proceeded in parallel, using constant comparison across datasets to corroborate findings and enhance validity through triangulation (Patton, 2015; Flick, 2018).

FINDINGS AND DISCUSSION

This section presents the key findings of the study, structured around two thematic categories: manifestations of CT in students' argumentative writing and the challenges they faced in integrating CT into their work. Analysis drew on three qualitative data sources—students' argumentative essays, a focus group discussion (FGD) with all 27 participants, and document analysis. The essays revealed how CT was expressed through argument structure, use of evidence, and engagement with counter-arguments. The FGD provided reflective accounts of students' experiences and perceived obstacles, while document analysis

corroborated these insights by identifying patterns in organization, reasoning, and coherence. Triangulating these sources enabled a comprehensive understanding of the cognitive processes underpinning argumentative writing and the specific difficulties EFL learners encountered in demonstrating CT.

Manifestations of CT in Students' Argumentative Writing

Analysis of students' argumentative essays identified key manifestations of CT, including coherent argumentation, evidence use, engagement with counter-arguments, and logical essay structure (Table 1). While many students presented reasoned arguments supported by evidence, difficulties were observed in synthesizing information and fully addressing counter-arguments. Some essays, despite being logically organized, lacked the clarity and coherence expected in academic writing. The findings indicate that students possessed foundational CT skills but demonstrated gaps in their ability to integrate and apply these skills consistently across their work.

Table 1. Manifestations of CT in students' argumentative writing

Manifestation	Description
Argumentation and Reasoning	Students demonstrated strong CT skills in developing coherent arguments, with a clear logical flow. However, some essays lacked sufficient reasoning to fully back their arguments.
Use of evidence	Students incorporated evidence in their arguments by citing relevant sources, statistical data, and real-world examples. However, some struggled with evaluating the credibility of sources.
Counter-arguments	Several students addressed counter-arguments, anticipating opposing views and offering rebuttals. However, others only briefly mentioned counter-arguments or ignored them entirely.
Essay Structure and Coherence	The overall structure and organization of the essays were generally strong, with clear introductions, body paragraphs, and conclusions.

A prominent manifestation of CT in students' essays was their ability to construct logical arguments supported by clear reasoning. Most students articulated a central claim and justified it persuasively, as illustrated by one excerpt: *"Giving homework helps students develop time management skills and supports what they learn in class. This is important for academic success"* (T1). This statement demonstrates a clear progression from claim to rationale. Similarly, another student argued, *"While national exams aim to standardize learning, they often create stress and do not recognize students' diverse talents, making them an unreliable indicator of true ability"* (T2), reflecting both a stance and a critique of underlying assumptions. However, several students provided underdeveloped reasoning or insufficient evidence, weakening the logical flow of their arguments. These variations indicate a need for more explicit instruction in structuring arguments with sustained reasoning and substantive support.

Evidence use also emerged as a defining indicator of CT. Many students drew upon statistical data, expert opinions, or real-world examples to substantiate their positions, demonstrating analytical engagement. For instance, one essay cited a government report: *"According to a 2021 report by the Indonesian Ministry of Education, over 60% of high school students experience exam anxiety, suggesting that national exams may do more harm than good"* (T3). Another referenced an international comparison: *"In Finland, students don't have*

many national exams, but they still achieve strong results in international tests, showing that exams are not the only way to measure learning" (T4). While such examples strengthened arguments, some students failed to critically evaluate sources or integrate them seamlessly into their reasoning, diminishing overall persuasiveness. The stronger essays demonstrated the value of synthesizing evidence into arguments, underscoring the need for targeted instruction on evaluating and integrating diverse sources effectively.

Compared with previous scholarship, the present findings confirm, extend, and nuance existing understandings of how CT shapes EFL students' argumentative writing. The results align with prior work emphasising CT's central role in source evaluation, logical reasoning, and the formulation of independent opinions (Phyu, 2024; Paul & Elder, 2020; Zhao et al., 2016; Hu & Saleem, 2023). Consistent with Safitri and Adani (2024), Lu and Xie (2019), and Susilo et al. (2021), many students in this study engaged with counter-arguments only partially or superficially, indicating awareness of their importance but limited operationalisation, especially in contexts without explicit guidance. This qualitative evidence illustrates *how* such limitations materialise in authentic student texts, complementing Hu and Saleem's (2023) quantitative findings on CT dispositions and Abdelrahim's (2023) analysis of cognitive barriers in EFL composition. The influence of CT on structural organisation and coherence parallels Murtadho's (2021) conclusion that integrating metacognitive strategies with CT instruction enhances clarity, yet the current study, conducted in a traditional classroom, suggests that without scaffolded or technologically mediated instruction (cf. Abdelrahim, 2023; Susilo et al., 2021), weaker CT skills often lead to fragmented sequencing and reduced persuasiveness. While prior research by Abdelrahim (2023) and Lu and Xie (2019) examined CT within structured interventions, this study captures naturally occurring CT manifestations in authentic writing tasks. The limited engagement with counter-arguments mirrors Safitri and Adani's (2024) observation of students' difficulty in constructing comprehensive arguments, while differing from Murtadho's (2021) and Susilo et al.'s (2021) reports of stronger self-voicing under scaffolded conditions.

The four main CT manifestations identified; argument coherence, evidence use, counter-argument engagement, and overall structure, closely align with Paul and Elder's (2020) intellectual standards and elements of thought, as well as Zhao's (2016) conceptualization of CT as purposeful, self-regulatory judgment. Students who demonstrated strong argumentation and logical reasoning reflected the standards of clarity, logic, and relevance (Ennis, 2018; Davies & Barnett, 2015), while effective evidence use corresponded with the elements of information and inference (Halpern, 2014; Elder & Paul, 2020). However, certain dimensions, such as breadth (minimal exploration of opposing perspectives), and depth (limited critical evaluation of sources), were applied inconsistently, echoing findings that EFL learners often privilege surface-level reasoning over multi-perspectival analysis (Safitri & Adani, 2024; Phyu, 2024; Zhang & Zhang, 2021). These gaps suggest a partial internalisation of CT standards, with more advanced applications such as weighing counter-arguments or synthesising complex ideas, remaining underdeveloped (Hu & Saleem, 2023; Murtadho, 2021; Wingate, 2012). The divergence between theoretical CT frameworks and their practical application in EFL writing aligns with research attributing such discrepancies to linguistic constraints (Zhao et al., 2016; Sun & Zhang, 2022), limited exposure to authentic argumentative discourse (Li, 2024; Shukri et al., 2014), and

educational traditions that prioritise grammatical accuracy and memorisation over critical inquiry (McKinley & Rose, 2022; Hyland & Hyland, 2019; Othman & Lo, 2023).

Challenges in Integrating CT into Argumentative Writing

The study identified three major challenges that impeded students' effective integration of CT into their argumentative essays: difficulty in organizing complex ideas, struggles with synthesizing information from multiple sources, and balancing creative expression with logical reasoning (see Table 2). These obstacles reflect the multifaceted demands of applying CT in academic writing. Many students were unable to structure their arguments in a clear, logically connected sequence, resulting in essays with limited coherence. Additionally, they encountered difficulties in synthesizing diverse sources, often integrating information in a fragmented or superficial manner that weakened the persuasiveness of their arguments. Finally, the need to balance originality with adherence to academic conventions created tension; while students sought to express creative perspectives, they often compromised clarity, structure, and logical consistency. Collectively, these findings highlight the need for targeted instructional support in argument organization, source synthesis, and aligning creativity with the intellectual standards of academic writing.

Table 2. Challenges in Integrating CT into Argumentative Writing

Challenges	Description
Difficulty in organizing complex ideas	Many students struggled with organizing complex ideas and ensuring clarity in their essays. Some essays became overly complicated or unclear due to poor organization.
Synthesizing information	Students had difficulties synthesizing information from multiple sources and integrating it into their arguments. Often, evidence was presented without a clear connection to the main argument.
Balancing creativity and logical reasoning	Students struggled with balancing creative expression and logical reasoning. Many essays showed creativity but lacked the logical structure required in academic writing.

The difficulty in organizing complex ideas emerged as a primary challenge in the students' writing. Many struggled to break down their ideas into coherent, manageable components, often producing essays with limited logical flow. As one student noted (T1), *"Sometimes I have too many ideas in my head, and I don't know which one to write first, so the essay becomes confusing."* This disorganization hindered the clarity of their reasoning and occasionally resulted in incomplete arguments. Another participant reflected (T3), *"I wanted to explain both the benefits and the disadvantages, but when I started writing, I mixed them up and forgot to group similar points together."* Such difficulties echo Abdelrahim's (2023) observation that EFL learners often face challenges in organizing thoughts, directly impacting argument clarity and persuasiveness. The problem was especially pronounced when students addressed multiple or complex issues, as their essays frequently lacked the structured progression expected in academic writing.

A second key challenge was synthesizing information from multiple sources. Students often presented evidence in a fragmented manner, failing to integrate it into a cohesive argument. One participant admitted (T4), *"I found many articles for my topic, but I just put the quotes one after another without explaining how they are connected."* Another shared (T2), *"I*

wasn't sure how to combine ideas from different texts, so I used them separately in different paragraphs and didn't really relate them to my main point." A third reflected (T1), *"When I read different sources, sometimes the information was confusing or even contradictory, so I didn't know how to put them together in my writing."* These patterns align with [Phyu's \(2024\)](#) findings that EFL students frequently struggle with integrating multiple sources effectively. In this study, students tended to present isolated pieces of evidence rather than weaving them into a unified narrative, which weakened the persuasiveness of their essays. This underscores the need for explicit instruction in critically engaging with sources, selecting relevant information, and integrating it seamlessly into argumentation.

Compared with prior research, the challenges identified in this study align closely with established findings on the difficulties EFL students face when integrating CT into their writing. [Hu and Saleem \(2023\)](#) reported that students' CT dispositions—such as truth-seeking, analyticity, and cognitive maturity—were positively associated with performance in argumentative writing; however, weaker CT skills were evident among those who struggled with idea organisation and information synthesis, patterns consistent with the present findings ([Phyu, 2024](#); [Zhang & Zhang, 2021](#)). The difficulty of balancing creativity with logical reasoning, also observed here, echoes [Safitri and Adani's \(2024\)](#) conclusion that while creative expression can be encouraged in writing tasks, it may conflict with the logical rigour demanded by academic argumentation ([Ennis, 2018](#); [Hyland & Hyland, 2019](#)). Similar challenges have been noted in contexts where limited exposure to authentic argumentative discourse and culturally rooted rhetorical preferences constrain students' engagement with alternative perspectives ([Islamiyah & Fajri, 2020](#); [McKinley & Rose, 2022](#); [Rusfandi, 2015](#)).

The findings are further supported by [Lu and Xie \(2019\)](#), who emphasised that targeted CT instruction enhances EFL students' writing, particularly in organising arguments and evaluating sources—a view also reinforced by [Murtadho \(2021\)](#) and [Wingate \(2012\)](#) in their calls for explicit strategy integration. In the present study, although students demonstrated the potential to apply CT, difficulties in structuring ideas and synthesising evidence limited their ability to fully operationalise these skills, a tendency similarly reported by [Ghanbari and Salari \(2022\)](#) and [Shukri et al. \(2014\)](#). This gap underscores the need for instructional approaches that not only foster creativity but also equip students with strategies to structure, connect, and synthesise ideas coherently—thereby embedding creative insights within logically sound argumentative frameworks ([Davies & Barnett, 2015](#); [Halpern, 2014](#); [Elder & Paul, 2020](#)). Furthermore, the challenges identified in this study—organising complex ideas, synthesising information, and balancing creativity with logic—corroborate and extend prior research on EFL students' critical thinking (CT) in academic writing. Consistent with [Safitri and Adani \(2024\)](#), who reported students' limited ability to construct unified and logically connected arguments, the present findings reveal that many participants struggled to sequence points coherently, especially when addressing multiple claims ([Hyland & Hyland, 2019](#); [Wingate, 2012](#)). Similarly, [Phyu \(2024\)](#) noted that insufficient exposure to CT-focused instruction and authentic argumentative discourse often leads to superficial engagement, a pattern also observed here ([McKinley & Rose, 2022](#); [Rusfandi, 2015](#)).

The difficulty in synthesising information aligns with [Murtadho's \(2021\)](#) conclusion that students require structured, cycle-based scaffolding to effectively integrate and critically reflect on multiple sources, a point echoed in [Ghanbari and Salari \(2022\)](#) and [Zhang](#)

& Kang (2022). While Abdelrahim (2023) found that augmented reality-based instruction significantly enhanced CT and writing quality, the more traditional, non-technologically mediated context of this study suggests that without such scaffolding, students continue to face persistent barriers to deeper CT application (Shukri et al., 2014; Teng, 2021). Furthermore, the hesitancy and fragmentation in presenting counter-arguments observed here parallels Hu and Saleem's (2023) finding that cognitive dispositions such as analyticity and truth-seeking (Zhao et al., 2016; Ennis, 2018) are not always readily translated into coherent written expression in EFL contexts. Taken together, these results provide empirical depth to an underexplored issue: how EFL students negotiate the cognitive and rhetorical demands of CT when expected to apply it independently in their writing, without the benefit of intensive scaffolding, targeted CT training, or technology-enhanced support (Davies & Barnett, 2015; Paul & Elder, 2020; Bezanilla et al., 2019).

Viewed through Paul and Elder's (2020) CT model, the challenges in Table 2 expose persistent gaps between theory and practice. The difficulty in organizing complex ideas reflects an underdeveloped application of the elements of *purpose*, *structure*, and *clarity*, suggesting that while students may grasp the concepts they wish to convey, they lack strategies to articulate them logically. Problems in synthesizing sources indicate limited ability to evaluate and integrate *information* and draw well-supported *inferences*. The observed tension between creativity and logical reasoning points to a misalignment between the intellectual standards of *logic* and *originality*, highlighting the need for clearer guidance on embedding imaginative thinking within academic conventions. While some CT elements—such as questioning and opinion expression—were evident, students frequently fell short of meeting standards for depth, precision, and relevance. This reinforces the Paul and Elder framework while underlining the necessity of scaffolding and instructional alignment to help students operationalize theoretical CT constructs in written work.

Pedagogically, this study contributes to EFL writing research by revealing cognitive and structural barriers faced by learners in the absence of targeted CT instruction. Whereas much prior work has examined the benefits of explicit interventions, this study offers a detailed account of recurring difficulties—fragmented idea development, superficial evidence uses, and weak counter-argumentation—that hinder the integration of CT in authentic writing tasks. These insights point to the need for curricula that explicitly embed CT instruction, model source synthesis, and provide structured opportunities for practice and feedback. For practitioners, the three challenges highlighted in Table 2 can serve as diagnostic indicators for lesson design and feedback provision. Theoretically, the findings reaffirm that CT is teachable but not self-emerging; it requires intentional modeling, guided practice, and reflective activities. As such, this study strengthens calls for pedagogical approaches that are both cognitively and contextually responsive to the realities of EFL learners.

CONCLUSION

In the context of EFL argumentative writing, this study examined how students apply critical thinking (CT) in constructing written arguments in a conventional classroom setting without targeted scaffolding or technological mediation. The findings indicate that while students understood the value of CT, particularly in making claims, supporting them with evidence, and structuring their work, its practical application was often partial. Many were

able to follow a logical essay format, yet encountered persistent difficulties in organizing complex ideas, synthesizing information from diverse sources, and integrating counter-arguments effectively. Balancing creativity with logical reasoning also proved challenging, as creative input sometimes reduced structural clarity. These results point to the need for more explicit, structured, and sustained CT instruction to support both the cognitive and rhetorical demands of argumentative writing.

However, the research was limited to one institutional context with a relatively small and homogeneous participant group, constraining the generalizability of findings. The focus on final written products, rather than real-time writing processes, limited the ability to capture how CT skills were enacted during drafting and revision. Additionally, the absence of an experimental or longitudinal component means that the study cannot establish causal relationships between instructional conditions and writing outcomes. Future research could adopt longitudinal or intervention-based designs to explore how explicit CT instruction influences argumentative writing over time. Broader participant samples across varied proficiency levels and educational settings would enable more comprehensive comparisons. Process-oriented methods, such as think-aloud protocols or digital writing analytics, could provide deeper insights into how students plan, monitor, and adjust their writing in response to CT demands. Exploring the potential of technology-enhanced approaches—such as collaborative platforms or AI-assisted feedback—may also offer valuable pathways for supporting the integration of CT into EFL writing practice.

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