
THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE WRITING PRACTICES OF SIXTH-SEMESTER ENGLISH STUDENTS AT UIN SJECH M. DJAMIL DJAMBEK BUKITTINGGI

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ABSTRACT

Artificial Intelligence tools such as ChatGPT, Grammarly, and QuillBot are increasingly used in academic writing and offer both benefits and challenges for EFL learners. While these tools can support language development, concerns remain regarding students' independence and academic integrity. This study examines the use of AI across different stages of writing and explores its perceived benefits and limitations among sixth semester English students at UIN Sjech M. Djamil Djambek Bukittinggi. A mixed methods convergent design was employed. Quantitative data were collected through a validated questionnaire from 88 students, while qualitative data were obtained from in depth interviews with 10 selected participants and analyzed thematically. The findings indicate that AI was widely used during pre writing and brainstorming (85 percent), drafting (92 percent), and revision (78 percent). Students reported improvements in grammar, organization, and vocabulary, with grammar receiving the highest mean score of 4.2 out of 5. However, 35 percent of participants admitted to copying AI generated content without proper paraphrasing, highlighting potential ethical concerns. The study emphasizes the importance of integrating digital literacy and ethical guidance in the use of AI for academic writing.

Keyword: Artificial intelligence, academic writing, AI in education, academic integrity, digital literacy

INTRODUCTION

The increasing integration of Artificial Intelligence (AI) in education has significantly transformed the way students approach academic writing. AI based tools such as ChatGPT, Grammarly, and QuillBot provide instant feedback on grammar, vocabulary choice, sentence

structure, and text organization, making them attractive supports for EFL learners who often struggle with linguistic accuracy and fluency. Previous studies have shown that technology enhanced instruction can improve students' motivation and engagement in writing activities (Kardena & Anita, 2021; Safitri et al., 2024). More recently, AI has been positioned not only as a corrective tool but also as a cognitive partner that assists learners in idea development and revision processes (Syafitri et al., 2025; Amelia & Handayani, 2025).

In the context of EFL writing, the writing process itself is cognitively complex and involves multiple stages, including planning, drafting, and revising, as described in the cognitive process theory of writing by Flower and Hayes (1981). AI tools have the potential to support each of these stages by helping students generate ideas, organize arguments, and refine language use. Empirical studies conducted in various EFL contexts have reported positive effects of AI use on students' writing quality, particularly in grammar accuracy, coherence, and vocabulary development (Barrot, 2023; Fitria, 2023; Pratama, 2024). Systematic reviews and meta analyses further confirm that AI assisted writing tools can enhance EFL students' writing performance when used appropriately (Pawestri, 2024; Lee, 2025).

Despite these benefits, growing concerns have emerged regarding the ethical and cognitive implications of AI use in academic writing. Several studies warn that excessive reliance on AI may reduce students' critical thinking, originality, and independent writing skills (Song & Song, 2023; Yan, 2023). Issues of plagiarism, improper paraphrasing, and direct copying of AI generated text have been widely reported in EFL contexts (Barrot, 2023; Kessler, 2025). These challenges are particularly sensitive in Indonesian higher education, including Islamic universities, where ethical values play a central role in academic practice (Sobron Lubis, 2021; Assingkily, 2025). Furthermore, disparities in digital literacy among Indonesian EFL students may intensify the risk of unethical AI use, especially in advanced academic writing such as research papers and thesis preparation (Lestari Fitria, 2025).

While global research on AI in higher education continues to expand (Zawacki Richter et al., 2019; Rudolph et al., 2025), many studies remain broad in scope or focus on general perceptions rather than actual patterns of use. Research conducted in Southeast Asian contexts, including Indonesia and the Philippines, has highlighted both opportunities and challenges of AI integration in EFL writing instruction but often relies on single method designs or classroom level observations (Barrot, 2023; Roisah et al., 2024; Suryani, 2025).

Moreover, limited attention has been given to how students use AI tools differently across specific stages of the writing process, even though stage specific use has been shown to influence learning outcomes and ethical decision making (Wang, 2024; Zhang, 2025).

This reveals a clear research gap. First, there is a lack of stage specific analysis of AI use in EFL academic writing, particularly at the university level. Second, few studies have employed mixed methods approaches that combine quantitative data on usage patterns with qualitative insights into students' experiences and perceptions (Ouyang & Jiao, 2024). Third, research focusing on Indonesian Islamic higher education institutions remains limited, despite their unique educational and ethical contexts.

To address these gaps, the present study investigates the use of AI tools across different stages of the writing process among sixth semester English Education students at UIN Sjech M. Djamil Djambek Bukittinggi. Using a convergent mixed methods design, this study examines how students employ AI during pre writing, drafting, and revision stages, as well as the perceived benefits and ethical challenges associated with its use. By providing empirical evidence from a localized institutional context, this study aims to contribute to ongoing discussions on ethical AI integration and to inform pedagogical strategies that position AI as a supportive learning tool rather than a substitute for students' own cognitive and writing abilities.

METHOD

Research Design

This study employed a mixed-methods convergent parallel design to examine the use of Artificial Intelligence tools in students' academic writing. This design enabled the simultaneous collection and analysis of quantitative and qualitative data, allowing for a comprehensive understanding of both usage patterns and students' experiences (Roisah et al., 2024). Quantitative findings provided general trends of AI use across writing stages, while qualitative data offered deeper insights into students' perceptions, benefits, and ethical considerations.

Participants

The population consisted of 92 sixth-semester students enrolled in the English Education Program at UIN Sjech M. Djamil Djambek Bukittinggi. Quantitative data were

collected from 88 students who reported prior experience using AI tools for academic writing, representing a response rate of 95.7 percent. For the qualitative phase, 10 participants were purposively selected based on their high frequency of AI use to ensure rich and relevant information related to writing practices and ethical awareness.

Instrumentation

Quantitative data were gathered using a structured questionnaire designed to measure students' use of AI tools across five stages of the writing process: pre-writing, drafting, revising, editing, and publishing. The questionnaire also explored perceived benefits and ethical concerns related to AI use. Content validity was established through expert judgment involving specialists in English education and educational assessment. Each item was evaluated using a multi-level relevance scale, and Aiken's V index was applied to determine the degree of agreement among experts. All items demonstrated satisfactory content validity, with Aiken's V values exceeding 0.70, indicating that the instrument was appropriate for data collection.

To ensure reliability, the internal consistency of the questionnaire was tested using Cronbach's Alpha. This measure was selected because the instrument employed a Likert scale and assessed a single construct, namely students' use of AI in the academic writing process. The reliability analysis yielded a Cronbach's Alpha coefficient of 0.82, exceeding the accepted threshold of 0.70, thus confirming the instrument's reliability.

Qualitative data were collected through semi-structured interviews using open-ended questions. This format allowed participants to elaborate on their experiences with AI tools, including how they used AI at different writing stages, perceived advantages, and ethical challenges.

Data Collection Procedures

Data collection was conducted concurrently between April and May 2025. The questionnaire was administered online to ensure accessibility and efficiency, while interviews were conducted individually and recorded with participants' consent. Both data sets were collected independently and analyzed separately before being integrated at the interpretation stage.

Data Analysis

Quantitative data were analyzed descriptively using SPSS version 26. The analysis included frequencies, percentages, and mean scores to describe patterns of AI use and students' perceptions. Qualitative data were analyzed using thematic analysis following the procedures outlined by Braun and Clarke (2006), including data familiarization, initial coding, theme development, and theme review. Finally, the quantitative and qualitative findings were merged to identify convergence and complementarity between the two data sets, strengthening the overall interpretation of results.

Ethical Considerations

Ethical approval for this study was obtained from the Institutional Review Board of UIN Sjech M. Djamil Djambek Bukittinggi (No. 045/KEP-ETIK/PEN.LP2M/2025). All participants provided informed consent and were informed of the voluntary nature of participation, their right to withdraw at any time, and the use of data solely for research purposes. Participants' anonymity and confidentiality were ensured through the use of pseudonyms and secure data storage. No financial or academic incentives were offered.

FINDINGS AND DISCUSSION

Findings

The results of the convergent mixed-methods analysis indicate a high level of Artificial Intelligence use across different stages of the academic writing process among sixth-semester English Education students. Quantitative and qualitative data were triangulated to enhance the validity of the findings. Quantitative data were analyzed using descriptive statistics, including percentages and mean scores, while qualitative data from interviews were used to explain and support the numerical results.

AI Usage Across Writing Stages

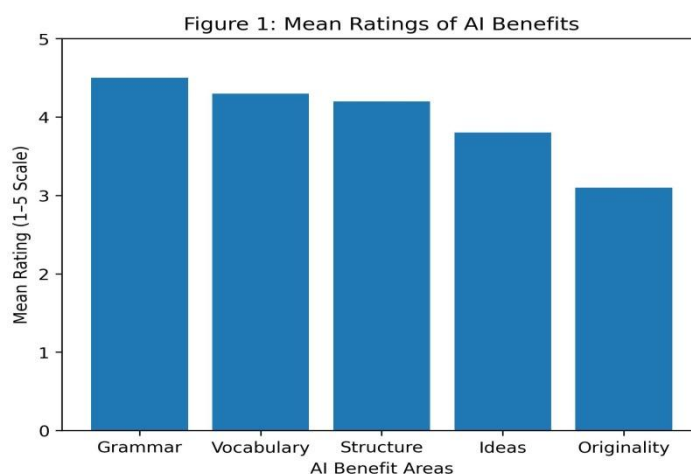
Table 1: AI Usage Across Writing Stages

Stage	% Users	Mean Score	Primary Tools
Pre-writing	85%	4.1	ChatGPT (ideas)
Drafting	92%	4.5	Grammarly / QuillBot
Revision	78%	4.0	Grammarly
Editing	65%	3.7	QuillBot

Based on the questionnaire results (N = 88), AI tools were most frequently used during the drafting stage, with 92 percent of students reporting regular use. This was followed by pre-writing activities, such as brainstorming and idea generation, which were reported by 85 percent of respondents. The revision stage also showed a high level of AI use at 78 percent. In contrast, lower usage was found during the editing stage (65 percent) and the publishing stage (42 percent). Table 1 presents a summary of AI usage frequencies and mean scores across writing stages using a five-point Likert scale (1 = never, 5 = always). The findings indicate that students primarily rely on AI during stages that involve linguistic accuracy and text development, particularly drafting and revision, rather than during final publication tasks.

Perceived Benefits and Limitations of AI Use

In terms of perceived benefits, students rated AI tools highly for improving technical aspects of writing. The overall mean score for technical improvement was 4.2 out of 5. Grammar improvement received the highest rating (M = 4.5), followed by vocabulary enhancement (M = 4.3) and text structure (M = 4.2). However, AI's contribution to creativity and originality was rated considerably lower, with originality receiving a mean score of 3.1. Figure 1 illustrates students' mean ratings of AI benefits across different writing aspects.



Despite these benefits, students also reported several limitations. One of the most prominent concerns was over-reliance on AI tools, as 35 percent of respondents admitted to copying AI-generated content directly without paraphrasing. In addition, some students noted that AI responses were sometimes insensitive to context or academic expectations.

Ethical Concerns and Qualitative Themes

The qualitative analysis of interview data (n = 10) identified three dominant themes related to AI use in academic writing: efficiency gains, ethical dilemmas, and the need for instructional guidance. Most participants emphasized the efficiency of AI tools, particularly in saving time and reducing effort during writing tasks. Nine out of ten interviewees stated that AI helped them correct grammar quickly and produce drafts more efficiently.

However, this efficiency was closely linked to ethical concerns. Seven out of ten participants admitted that they sometimes used AI-generated text directly, especially when they were under time pressure. One participant stated, “Sometimes I just use it as-is,” indicating a tendency to prioritize task completion over ethical writing practices. This qualitative finding aligns with the quantitative result showing that 35 percent of students engaged in direct copying without paraphrasing, highlighting a potential risk to academic integrity.

The third theme reflects students’ perceived need for clearer guidance from lecturers. Eight interview participants expressed the importance of receiving explicit instruction on paraphrasing skills and ethical AI use. Statements such as “Need rules for ethical use” suggest that students expect structured guidance to help them use AI responsibly. These findings indicate that AI integration in writing instruction should be accompanied by pedagogical support to ensure that AI functions as a learning aid rather than a replacement for students’ own cognitive processes.

Discussion

The findings of this study demonstrate a high level of Artificial Intelligence adoption among sixth-semester English Education students at UIN Sjech M. Djamil Djabek Bukittinggi, particularly during the drafting stage of academic writing, where 92 percent of students reported frequent use. This result is consistent with a growing body of international research indicating that AI tools such as ChatGPT, Grammarly, and QuillBot have become integral to students’ writing practices due to their ability to provide immediate linguistic feedback and improve writing efficiency (Barrot, 2023; Pawestri, 2024; Pratama, 2024). The high overall mean score for perceived benefits (4.2 out of 5) further supports the Technology Acceptance Model, which emphasizes perceived usefulness as a key determinant of technology adoption in educational contexts. The dominance of AI use during drafting and

revision stages suggests that students primarily rely on AI to support language accuracy and text organization rather than higher-level cognitive processes. This finding aligns with Flower and Hayes' (1981) cognitive process theory of writing, which distinguishes between lower-level mechanical processes, such as grammar and sentence construction, and higher-level processes, such as planning, idea generation, and revision of meaning. In this study, AI appears to function as a tool that offloads mechanical demands, allowing students to focus more on completing writing tasks efficiently. However, the relatively lower mean score for originality (3.1) indicates that AI has limited influence on students' creative and critical engagement with content.

This pattern contrasts with findings from Western contexts, where AI use has been associated with increased creativity and idea exploration. Holzmann et al. (2025), for example, reported that students in a U.S. university context experienced notable gains in originality and creative expression through AI-assisted writing. The difference may be attributed to contextual factors such as language proficiency, academic culture, and levels of digital literacy. Indonesian EFL students, particularly those working in a foreign language, may prioritize linguistic accuracy and structural correctness over creative experimentation, as also noted by Fitria (2023) and Lestari Fitria (2025). This reinforces the argument that the impact of AI on writing is highly context-dependent and cannot be generalized across educational settings.

A critical issue revealed by this study is the ethical challenge associated with AI use, particularly the practice of direct copying without paraphrasing. The finding that 35 percent of students admitted to copying AI-generated text without modification raises serious concerns regarding academic integrity. This result is consistent with previous studies conducted in EFL contexts, which have identified similar risks of plagiarism and over-reliance on AI tools (Barrot, 2023; Song & Song, 2023; Yan, 2023). In the Korean EFL context, Song and Song (2023) reported comparable rates of uncritical AI use, suggesting that this issue reflects a broader challenge faced by EFL learners globally rather than a localized problem.

In the Indonesian context, the ethical implications of AI use are further complicated by uneven levels of digital literacy. Lestari Fitria (2025) highlights that many Indonesian university students lack adequate training in paraphrasing, citation, and ethical digital practices, which may increase the likelihood of misuse. This issue is particularly salient in Islamic higher education institutions, where ethical conduct is not only an academic

expectation but also a moral obligation. Sobron Lubis (2021) and Assingkily (2025) emphasize that the integration of technology in Islamic education must be accompanied by strong ethical guidance to ensure that technological advancement does not undermine core educational values.

The qualitative findings of this study further illuminate this ethical tension. While students acknowledged the efficiency gains provided by AI tools, many also expressed discomfort and uncertainty regarding acceptable usage boundaries. The recurring theme of “need for guidance” reflects students’ awareness that AI use requires regulation and instruction rather than prohibition. This finding supports Syafitri et al. (2025), who conceptualize generative AI as a “cognitive co-pilot” that can support learning when used appropriately, but which requires clear pedagogical framing to prevent misuse.

Moreover, the lack of structured guidance from lecturers appears to exacerbate the gap between perceived benefits and ethical risks. Roisah et al. (2024) similarly reported that Indonesian EFL instructors often lack clear institutional policies regarding AI use, leaving students to rely on personal judgment. This absence of guidance may unintentionally encourage practices such as direct copying, especially under time constraints. From a sociocultural perspective, this finding underscores the importance of scaffolding in learning environments. When guidance is insufficient, students may use available tools in ways that prioritize task completion over learning outcomes.

From a broader theoretical perspective, the findings of this study contribute to ongoing discussions on the role of AI in EFL writing by positioning AI as a form of scaffolded support rather than an autonomous knowledge producer. Drawing on sociocultural learning theory and the concept of the Zone of Proximal Development, AI can be understood as a mediating tool that supports learners in completing tasks they might not yet accomplish independently. However, as this study demonstrates, without explicit instruction and ethical framing, such scaffolding risks becoming a cognitive shortcut rather than a developmental aid.

In terms of pedagogical implications, the findings suggest that universities should move beyond debates about whether AI should be allowed and instead focus on how AI can be integrated responsibly into writing instruction. Consistent with recommendations by Kessler (2025) and Rudolph et al. (2025), institutions should incorporate digital literacy and AI ethics modules into academic writing courses. These modules should explicitly address paraphrasing

strategies, citation practices, and the distinction between acceptable assistance and academic misconduct.

For Indonesian Islamic higher education institutions, context-sensitive guidelines are particularly important. Integrating ethical principles with practical AI instruction may help students develop what can be described as “AI-assisted originality,” where AI supports language development without replacing students’ intellectual ownership of their work. Such an approach aligns with both international academic standards and the ethical foundations emphasized in Islamic education.

Overall, this study reinforces the view that AI is neither inherently beneficial nor harmful to EFL writing. Its impact depends largely on how it is used, taught, and regulated. By highlighting stage-specific usage patterns, ethical challenges, and students’ expressed need for guidance, this study provides empirical evidence to inform more balanced, ethical, and pedagogically sound integration of AI in academic writing instruction.

CONCLUSION AND SUGGESTION

This study contributes to the literature on AI in education by documenting stage specific patterns of AI use in academic writing among sixth semester English students at UIN Sjech M. Djamil Djambek Bukittinggi, an Indonesian Islamic university context that has received limited scholarly attention. The findings show that AI tools are most frequently used during the drafting stage, providing strong technical support for grammar, vocabulary, and text organization, yet they also reveal an ethical concern in the form of direct copying without adequate paraphrasing. In line with Flower and Hayes’ cognitive process model, AI functions primarily as a mechanical support for lower level writing processes rather than as a tool that promotes originality or higher order thinking. This study therefore highlights a clear gap between the perceived benefits of AI and ethical writing practices in EFL contexts. Based on these findings, it is recommended that universities integrate explicit guidelines on ethical AI use into academic writing instruction, including training on paraphrasing and proper citation, while future research should explore lecturers’ perspectives and examine the long term impact of AI assisted writing on students’ cognitive and academic development.

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