

HARNESSING AI TOOLS RESPONSIBLY: SUPPORTING ACADEMIC WRITING SKILLS IN MALAYSIAN TERTIARY ESL CLASSROOMS

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ABSTRACT

The integration of artificial intelligence (AI) tools in education presents transformative opportunities for enhancing academic writing skills, particularly in English as a Second Language (ESL) contexts. In Malaysian tertiary education, where students often struggle with academic writing proficiency, AI-powered writing assistants, grammar checkers, and content generators offer valuable support. However, their use must be guided by ethical considerations and pedagogical strategies to prevent over-reliance and ensure genuine skill development. This study explores the responsible application of AI tools in Malaysian ESL classrooms, examining their potential to improve writing competence while addressing challenges such as academic integrity, critical thinking, and learner autonomy. Through a mixed-methods approach involving surveys, interviews, and classroom observations, this research investigates how AI tools are currently utilised in Malaysian university ESL writing classes. Findings reveal that while AI aids in grammar correction, vocabulary enhancement, and structural organisation, students often lack guidance on using these tools effectively. The study proposes a framework for responsible AI integration, emphasising instructor mediation, scaffolded learning, and digital literacy training. Additionally, it highlights the need for institutional policies to regulate AI use, ensuring it complements rather than replaces traditional writing instruction. By balancing technological innovation with academic rigor, this research contributes to the broader discourse on AI in education, offering practical insights for ESL educators in Malaysia and similar contexts. The study advocates for a pedagogically sound approach to AI adoption, fostering both writing proficiency and ethical digital practices among students.

Keywords: AI in education; academic writing; ESL; Malaysian tertiary education; responsible technology use

1. INTRODUCTION

Recent advancements in artificial intelligence (AI) have significantly influenced educational practices, particularly in writing instruction and language learning. These developments have gained momentum in the wake of increased reliance on online learning, prompting widespread adoption of AI-driven tools in digital writing environments (Han et al., 2021). As a result, scholars have turned their attention to examining the pedagogical implications of AI tools in foreign and second language (FL/SL) contexts, exploring their potential to transform writing instruction and learner outcomes (Alexander et al., 2023; Alharbi & Khalil, 2023).

One of the central themes in this emerging body of research is the role of AI in enhancing students' writing performance and addressing concerns related to academic integrity (Alharbi & Khalil, 2023; Roe et al., 2023). In higher education, the use of AI-based writing tools by both instructors and students is expanding rapidly, raising questions about their effectiveness and ethical implications (Alexander et al., 2023). These tools range from summarising and paraphrasing applications like Quillbot and Spinbot, which support sentence restructuring and lexical variation (Kurniati & Fithriani, 2022), to more sophisticated systems offering automated writing evaluation (AWE), such as Pigai, Turnitin, and Grammarly, which provide immediate feedback on grammar, vocabulary, and writing style (Alexander et al., 2023; Alharbi, 2023).

Another prominent category includes digital writing assistants (DWAs) like Grammarly and Wordtune, which offer real-time suggestions and rephrasing options during the writing process (Alexander et al., 2023). Machine translation tools and large language models (LLMs), including

ChatGPT based on the GPT-3 architecture, are also gaining popularity for their ability to generate cohesive text and offer personalised writing feedback (Alsaedi, 2024; Alexander et al., 2023). These technologies have reshaped the way writing is approached in ESL/EFL classrooms.

Empirical evidence suggests that AI-assisted writing tools can significantly improve learners' writing accuracy, coherence, and lexical diversity (Hsiao & Chang, 2023; Al Mahmud, 2023). They have been found to support key academic writing skills such as summarising, paraphrasing, and idea development (Kavanagh, 2022; Praphan & Praphan, 2023). Specifically, tools like ChatGPT can enhance creativity and efficiency, facilitating brainstorming, content development, and rapid text revision (Mahapatra, 2024). Moreover, AI systems can offer tailored instruction and immediate corrective feedback, allowing learners to progress at their own pace and reducing the instructional burden on teachers (Sharifuddin & Hashim, 2024; Hawanti & Zubaydullovna, 2023).

However, despite these benefits, researchers have identified several pressing concerns. A key issue involves the risk of compromised academic integrity and the challenge of distinguishing between human- and AI-generated texts (Alharbi & Khalil, 2023; Roe et al., 2023). Overreliance on AI may hinder students' motivation and critical thinking, potentially leading to a decline in independent writing abilities (Mahapatra, 2024). Additionally, inconsistencies and limitations in AI-generated feedback, including overly complex suggestions and superficial error detection, remain problematic (Wu, 2024; Mahapatra, 2024). Further challenges include usage restrictions in free versions of tools, varied output quality, and the lack of clear institutional guidelines as AI technologies evolve rapidly (Zhao, 2023; Roe et al., 2023). Addressing these issues calls for revised academic policies, targeted digital literacy training, and a nuanced understanding of the limitations and affordances of AI tools in writing instruction (Roe et al., 2023; Alsaedi, 2024).

The integration of artificial intelligence into education has significantly transformed ESL instruction, particularly in the domain of academic writing. As AI-powered tools become increasingly accessible and sophisticated, their adoption in language classrooms has generated both enthusiasm and concern among educators, researchers, and learners. This paper aims to explore the multifaceted implications of incorporating AI-based writing tools into ESL academic writing instruction. Specifically, it seeks to examine the pedagogical potential of these tools in supporting language development, enhancing the quality and timeliness of feedback, and fostering learner autonomy. Through an analysis of recent empirical studies and theoretical frameworks, this research investigates how AI tools such as automated writing evaluation systems, digital writing assistants, machine translation applications, and large language models (LLMs) like ChatGPT and DeepSeek can be meaningfully integrated into writing pedagogy. It also considers how these technologies contribute to improvements in grammatical accuracy, lexical sophistication, and overall text coherence; which are key indicators of academic writing proficiency. Moreover, the study explores the ways in which AI tools facilitate self-regulated learning by enabling students to revise and refine their writing independently, potentially reducing overreliance on instructor-led feedback.

While acknowledging these pedagogical benefits, the study also foregrounds several critical concerns that have emerged in recent discourse. One of the central objectives is to address the ethical implications associated with the use of AI in academic writing, particularly the risks related to plagiarism and academic misconduct. As tools become more capable of generating high-quality text, distinguishing between student-authored and AI-generated writing has become increasingly difficult, raising questions about authenticity and assessment validity. Another objective of this research is to explore issues of learner dependence and cognitive disengagement. Although AI tools can scaffold

language learning and provide real-time support, there is growing concern that excessive reliance may inhibit the development of critical thinking, creativity, and writing fluency. These are core competencies in academic literacy. Furthermore, this study considers equity-related challenges, such as unequal access to advanced AI tools, varying degrees of digital literacy among learners, and the potential for language bias embedded in algorithmic systems. These concerns are particularly relevant in ESL contexts, where learners may already face structural and linguistic barriers in academic environments.

The main goal of this paper is to present a balanced perspective on the integration of AI tools in ESL academic writing instruction. By synthesising current research findings and pedagogical theories, it aims to provide insights that can inform instructional design, curriculum development, and policy-making in ESL education in the Malaysian higher education context. The study ultimately seeks to contribute to a deeper understanding of how AI technologies can be harnessed to enhance language learning outcomes while promoting responsible and equitable use. In doing so, it highlights the need for clear guidelines, teacher training, and digital literacy initiatives to support effective implementation. As AI continues to evolve, it is imperative for educators and institutions to engage critically with these tools, ensuring that their integration aligns with pedagogical objectives and ethical standards in second language writing instruction.

2. METHODOLOGY

This study adopted a mixed-methods research design to examine the responsible integration of artificial intelligence tools in teaching and learning academic writing in Malaysian undergraduate ESL classrooms. The combination of quantitative and qualitative approaches enabled a comprehensive investigation into how students and instructors engage with AI-powered writing assistants, grammar checkers, and content generation tools. The study focused on capturing both broad usage patterns and in-depth pedagogical implications, with particular attention to how AI tools influence writing development, learner autonomy, and academic integrity. The research was conducted in a private university in Malaysia, targeting students enrolled in English for Academic Purposes (EAP) or specifically academic writing course.

Participants included 182 average-proficiency Malaysian undergraduate ESL students, from diverse academic disciplines. These learners typically fell within the B1–B2 CEFR proficiency range and represented a broad spectrum of digital literacy skills. Data collection involved three main instruments: (1) a survey questionnaire capturing the frequency and purpose of AI tool use, types of tools employed, and user perceptions; (2) semi-structured interviews with 15 students and 2 ESL instructors to explore personal experiences, pedagogical concerns, and ethical considerations; and (3) classroom observations across three writing classes over a fourteen-week period for two semesters to document how students interacted with these technologies during writing tasks. The integration of these methods allowed for data triangulation and enhanced the reliability of the study's findings. Quantitative data from the surveys were quantified manually using Microsoft Excel to identify trends in AI usage and perceived benefits. Qualitative data from interviews and observations were analysed, and interpreted according to patterns (themes) identified. Emerging themes included AI-assisted content generation, vocabulary support, grammar correction, tool misuse, dependence, and teacher scaffolding.

3. RESULTS AND DISCUSSION

Findings from the survey data revealed that 86% of students reported using AI-powered tools such as ChatGPT, Grammarly, Google Translate and Quillbot during academic writing tasks. The most frequently cited functions included vocabulary enhancement (41%), content generation (32%), text rephrasing (17%), and grammar correction (10%). However, most of the respondents indicated that they had not received prior formal instruction on how to use these tools ethically and effectively. This suggests a gap between technological adoption and pedagogical guidance. Although students valued the immediate feedback and improved clarity AI tools offered, interviews highlighted a tendency toward mechanical use, with limited critical engagement or understanding of academic writing conventions.

Thematic analysis of interviews with ESL instructors and classroom observations uncovered five core themes: (1) AI-assisted error correction, (2) enhancement of vocabulary and sentence structure, (3) overreliance and reduced learner autonomy, (4) lack of institutional guidelines, and (5) teacher mediation practices. Instructors reported observing improvements in surface-level accuracy for certain students but expressed concern over students submitting AI-generated content without proper paraphrasing or adaptation. One instructor noted, *"Some students submit what seems like AI-generated paragraphs with minimal revision, and that bothers me because I can't assess their actual writing ability – what they know and what they don't."* This emphasises the need for prior language proficiency knowledge and training modules to help students appropriately evaluate and adapt AI-generated content.

In response to these concerns, a mini-lesson on using AI tools such as Grammarly and exposure to ChatGPT prompts was developed and piloted for classroom observation during the study. The module focused on promoting critical engagement with AI tools, teaching paraphrasing strategies, and encouraging reflective writing practices. High performing students participating in the module demonstrated improved ability to integrate AI-generated content responsibly, often revising outputs for coherence, academic tone, and originality. However, students who are weak in their English proficiency and weak writing skills struggle to avoid misusing AI generated content. Pre- and post-module writing samples showed noticeable gains in lexical variety and argumentative development. This outcome supports prior research by Kavanagh (2022) and Mahapatra (2024), affirming the value of instructional scaffolding when integrating AI tools into writing pedagogy.

To further guide ethical AI use, the study proposes a rubric for evaluating academic writing that includes specific criteria for AI integration. Key elements of the rubric include clarity of expression, originality of ideas, evidence of paraphrasing, and appropriate acknowledgment of AI support. For instance, students are encouraged to reflect briefly in a footnote or endnote on how AI tools assisted their writing process. This aligns with emerging calls for transparency in academic writing practices (Alharbi & Khalil, 2023; Roe et al., 2023), helping distinguish between AI-assisted and AI-generated content.

Instructor interviews also revealed strategies to manage AI use in writing assignments. These included assigning process-oriented tasks (e.g., annotated drafts), requiring in-class writing samples for comparison, and incorporating AI-literacy discussions into lessons. Teachers emphasised the need to "design assignments that AI alone cannot handle," such as personalised reflections or context-dependent critiques. In this study, the students were instructed to relate their writing to their personal experience as Malaysian students and focus on their views from their Islamic perspective.

Nevertheless, the teachers faced notable challenges including lack of training on AI tools, time constraints, and the absence of institutional policies governing AI usage. These findings resonate Zhao (2023) and Wu (2024), who identified systemic barriers to promoting AI literacy in language education.

A critical concern highlighted by both students and instructors is the potential for AI to unintentionally encourage plagiarism or cognitive disengagement. While tools like ChatGPT and DeepSeek can offer sophisticated text generation, they also risk bypassing the writing process itself. However, as suggested by Sharifuddin and Hashim (2024), AI can serve as a productive scaffolding tool when integrated into a pedagogically sound framework. Classroom observations confirmed that students who received instructor-led guidance used AI more critically; generating drafts, revising them with human feedback, and reflecting on their learning. This affirms that AI, when properly contextualised, can enhance writing skills without promoting unethical practices.

Overall, the study demonstrates that AI tools can play a constructive role in ESL academic writing instruction, but their use must be carefully mediated. For curriculum designers, this means embedding AI literacy into EAP syllabi and offering structured opportunities to critique and revise AI outputs. For educators, it means adopting rubrics that reward responsible tool use and creating writing tasks that emphasise original thought. Institutional stakeholders must also establish clear policies that define acceptable AI usage while investing in teacher training. By balancing innovation with academic rigor, the Malaysian ESL context can serve as a model for integrating AI responsibly in second language writing education.

4. CONCLUSION

The integration of AI-powered tools into Malaysian ESL academic writing classrooms holds significant pedagogical promise, particularly in addressing common challenges such as grammar accuracy, lexical development, and structural coherence. As the findings of this study suggest, students benefit from immediate, individualised feedback and improved writing fluency through tools like Grammarly, Quillbot, and ChatGPT. However, these benefits are contingent upon informed and critical use. Without structured instruction and institutional support, there is a risk that students may misuse these tools, resulting in mechanical outputs and diminished engagement with essential writing processes. Therefore, the use of AI must not replace foundational writing instruction but should instead serve as a complementary scaffold that enhances learning outcomes.

This study underscores the importance of a pedagogically guided framework for integrating AI in ESL writing instruction. The development and implementation of the AI writing support module demonstrated that student outcomes improve when technology use is accompanied by targeted instruction in paraphrasing, critical revision, and reflective practice. Instructor mediation remains crucial in shaping how learners interact with AI tools, promoting metacognitive awareness and academic integrity. Moreover, introducing rubrics that explicitly account for AI use; such as requiring reflection on AI-supported writing; can help educators assess not just the final product, but also the process and ethical considerations involved. These findings echo calls by Alharbi and Khalil (2023) and Roe et al. (2023) for clearer academic guidelines and transparency in AI-assisted writing.

Ultimately, for AI integration to be effective, stakeholders at all levels; educators, curriculum designers, and institutional leaders; must collaborate to establish supportive infrastructures. This includes embedding digital literacy into EAP curricula, providing professional development on AI

tools, and implementing policies that define responsible usage. While concerns about overreliance, authenticity, and equity persist, this research affirms that AI can be a powerful ally in academic writing instruction when employed within a pedagogically sound and ethically grounded framework. As AI technologies continue to evolve, ongoing research and adaptive teaching strategies will be essential to ensuring that ESL learners develop not only proficient writing skills but also the critical capacities to navigate digital tools responsibly in academic contexts.

5. REFERENCES

- Al Mahmud, F. (2023). Investigating EFL students' writing skills through artificial intelligence: wordtune application as a tool. *Journal of Language Teaching and Research*, 14(5), 1395-1404.
- Alexander, K., Savvidou, C., & Alexander, C. (2023). Who wrote this essay? Detecting AI-generated writing in second language education in higher education. *Teaching English with Technology*, 23(2), 25-43.
- Alharbi, K., & Khalil, L. (2023). Artificial intelligence (AI) in ESL vocabulary learning: An exploratory study on students and teachers' perspectives. *Migration Letters*, 20(S12), 1030-1045.
- Alharbi, W. (2023). AI in the foreign language classroom: A pedagogical overview of automated writing assistance tools. *Education Research International*, 2023, 1-15.
- Alsaedi, N. (2024). ChatGPT and EFL/ESL writing: A systematic review of advantages and challenges. *English Language Teaching*, 17(5), 41-50.
- Han, Y., Zhao, S., & Ng, L. L. (2021). How technology tools impact writing performance, lexical complexity, and perceived self-regulated learning strategies in EFL academic writing: A comparative study. *Frontiers in psychology*, 12, 752793.
- Hawanti, S., & Zubayduloevna, K. M. (2023). AI chatbot-based learning: alleviating students' anxiety in English writing classroom. *Bulletin of Social Informatics Theory and Application*, 7(2), 182-192.
- Hsiao, J. C., & Chang, J. S. (2023). Enhancing EFL reading and writing through AI-powered tools: design, implementation, and evaluation of an online course. *Interactive Learning Environments*, 1-16.
- Kavanagh, B. (2022). Assessing AI-based Summarizing and Paraphrasing Tools for a CLIL Intercultural Communication Academic Writing Class. *Intercultural Communication Studies*, 31(2).
- Kurniati, E. Y., & Fithriani, R. (2022). Post-graduate students' perceptions of Quillbot utilization in English academic writing class. *Journal of English Language Teaching and Linguistics*, 7(3), 437-451.
- Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Smart Learning Environments*, 11(1), 9.
- Praphan, P. W., & Praphan, K. (2023). AI technologies in the ESL/EFL writing classroom: The villain or the champion?. *Journal of Second Language Writing*, 62, 101072.
- Roe, J., Renandya, W. A., & Jacobs, G. M. (2023). A review of AI-powered writing tools and their implications for academic integrity in the language classroom. *Journal of English and Applied Linguistics*, 2(1), 3.
- Sharifuddin, N. S., & Hashim, H. (2024). Benefits and challenges in implementing artificial intelligence in education (AIED) in ESL classroom: a systematic review (2019-2022). *International Journal of Academic Research in Business and Social Sciences*, 14(1), 146-164.

- Wu, Y. (2024). Study on the impact of utilizing ChatGPT and other AI tools for feedback in EAP writing classrooms on the discursive writing performance of English major students. *Transactions on Social Science, Education and Humanities Research*, 4, 143-150.
- Zhao, X. (2023). Leveraging artificial intelligence (AI) technology for English writing: Introducing wordtune as a digital writing assistant for EFL writers. *RELC Journal*, 54(3), 890-894.