

Potential Benefits of Artificial Intelligence-Based Instruction Implementation in English Academic Writing Course: A Case Study at an Indonesian Private University

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Abstract:

This study describes the potential benefits of implementing AI-based instruction in an English academic writing course by revealing the views from the lecturers' perspective. This research uses a qualitative descriptive case study to investigate the phenomenon of using AI in higher education in the Indonesian context. During data collection, interviews were conducted to gather lecturers' perspectives on the use of artificial intelligence in English academic writing courses. Thematic analysis was used to interpret the data. Based on the findings, there are five benefits of implementing artificial intelligence in English academic writing courses. The results showed that the lecturers showed a positive perception towards the use of this platform. Integrating artificial intelligence provides prospects for personalized learning and feedback, increased efficiency and productivity of lecturers, improved quality of teaching and learning, innovation in teaching methods, and preparation of students for the digital era.

Keywords: Artificial Intelligence; academic writing; benefits; lecturers

INTRODUCTION

Artificial intelligence (AI) is a part of computer science that focuses on creating smart machines that can think and act like humans. These AI systems can solve problems, understand information, and make decisions similar to how people do. Today, AI helps reduce human work, especially in industries, by automating tasks. People build these smart machines to handle different jobs in various fields. AI also works with real-time data, connecting information from different sources to help make better decisions (Raheni & Thirumoorthi, 2020). The integration of Artificial Intelligence into English Language Teaching is revolutionizing pedagogical approaches, offering new learning experiences, and reshaping traditional classroom dynamics. AI-driven tools and techniques are enhancing language acquisition through adaptive learning systems, natural language processing, and conversational agents, especially for non-native speakers (Gligorea et al., 2023).

Academic writing, a cornerstone of higher education, poses considerable challenges for students, especially those navigating English as a Foreign Language (Dong, 2023). An academic writing course is a structured program designed to teach students the essential skills and conventions required for producing clear, well-researched, and formally written work in an educational or scholarly context. These courses focus on developing the ability to construct logical arguments, use evidence effectively, and adhere to the stylistic and grammatical standards expected in academic settings. (Kaharuddin et al., 2024).

The integration of Artificial Intelligence (AI) in academic writing has surged globally, driven by tools like Grammarly for grammar and style enhancement, ChatGPT for content generation and revision, and Turnitin for plagiarism detection and AI-writing identification (Perkins et al., 2023). These technologies promise to streamline feedback, reduce instructor workload, and support student self-editing (Hwang et al., 2020). However, debates persist about their pedagogical impact, particularly concerning over-reliance, critical thinking erosion, and ethical ambiguities (Zawacki-Richter et al., 2019).

Although there has been a lot of research on integrating artificial intelligence in education in Indonesia, there is still a lack of empirical investigation into how Indonesian lecturers actually perceive the use of these tools in their teaching and writing development. This includes their views on AI feedback, its impact on their teaching writing process, their trust in AI's assessment of their work, and any anxieties or reservations they might have about using AI in such a crucial academic skill. Therefore, research specifically exploring Indonesian lecturers' perceptions of AI within academic courses, especially the potential benefits of using AI for teaching and learning in the future.

LITERATURE REVIEW

The Concept of Artificial Intelligence

Artificial Intelligence, as a multifaceted discipline, encompasses diverse technologies designed to replicate human cognitive functions within machine systems, including perception, reasoning, learning, and interaction (Almasri, 2024). The term "Artificial Intelligence" was initially conceived in 1956. Thus, the field is just a few decades old, and since then, various disciplines have contributed to its advancements (Otero et al., 2023).

AI has been used to emulate complex functions associated with the human mind, such as sensing, learning, and predicting (Su & Yang, 2022). The emergence of AI in education,

often referred to as AIED, signifies a transformative shift in how teaching and learning are conceptualized and delivered, with the potential to personalize learning experiences, automate administrative tasks, and provide valuable insights into student performance (Dimitriadou & Lanitis, 2023; Gillani et al., 2023). Since the 1970s, the field of AIED has considerably impacted the use of technology in instruction and learning to improve the learning process and increase student achievement.

The current landscape of AIED is characterized by the integration of AI technologies across a wide range of educational applications, from personalized learning platforms and intelligent tutoring systems to automated assessment tools and virtual learning environments. AI algorithms can be used to analyze student data and create personalized learning experiences for each student (Lin et al., 2023). The capacity of AI systems to analyze huge datasets and generate insights offers an unparalleled avenue for understanding learners at a granular level, identifying patterns that might indicate a student's preferred learning style or areas where they struggle (Jian, 2023).

Characteristics of Artificial Intelligence

Artificial intelligence is revolutionizing numerous facets of education, and English language teaching is no exception, offering a multitude of opportunities to enhance pedagogical approaches and student learning outcomes (Zhang, 2021). The integration of AI in education creates a more immersive and interactive learning environment for students (Hou, 2021). AI can offer multi-faceted technical support for English language learners through intelligent scene assistance, intelligent dialogue training, intelligent language translation, and intelligent voice generation. Moreover, AI-based systems offer learners customized feedback, recommendations, and study resources (Woo & Choi, 2021). AI facilitates the creation of educational content that is consistent, succinct, and grammatically sound by leveraging natural language processing capabilities (Tahir et al., 2024). AI-driven platforms empower students to take command of their education, fostering self-regulation, promoting independent learning skills, and preparing them for lifelong learning endeavors (Lampou, 2023; Wei, 2023; Zhang, 2021).

English Academic Writing

Academic writing is an important skill for students, academics, and professionals alike (Busari, 2019). Academic writing is more than just a means of communication; it is a tool for career advancement and self-development, and it takes various forms, including essays,

reports, and scholarly articles (Busari, 2019). Academic writing also plays a crucial role in facilitating critical discourse and intellectual exchange within scholarly communities. Through carefully crafted arguments, evidence-based analysis, and rigorous methodology, academic writers contribute to the ongoing dialogue and debate that drives intellectual progress. Furthermore, academic writing provides a platform for scholars to share their insights, challenge existing paradigms, and propose new theories and frameworks for understanding the world. Academic writing demands precision and clarity in language, ensuring that ideas are conveyed accurately and unambiguously. The rigor of academic writing fosters intellectual curiosity, critical thinking, and a commitment to lifelong learning, all of which are essential for personal and professional growth. Many students struggle with academic writing due to insufficient guidance and feedback (Dong, 2023). In fact, academic writing is regarded as an active and productive skill that is essential for both professional and academic success (Shousha et al., 2020).

To effectively teach academic writing, it is essential to address common issues such as referencing, argumentation, and synthesizing sources. Instructors should give students explicit guidance on how to properly cite sources, construct logical arguments, and combine information from different sources to develop a cohesive understanding of the subject matter. Students also need to learn how to communicate their ideas in an effective and interesting way. In order to make sure that students can meet the standards of academic writing, instructors should offer them helpful feedback on their work (Trudel et al., 2018). One thing to keep in mind is that while some people think a formal style means copying the writing style of books or lecturers, this could make the writing sound forced and unclear (Samuels, 2024). For this reason, it may be more helpful to teach students to be clear and concise and to use language that is appropriate for the situation. Instructors should also encourage students to develop their own unique voice and style in academic writing, while still adhering to the conventions of the genre.

Artificial Intelligence in English Academic Writing

The integration of Artificial Intelligence (AI) into English academic writing marks a significant evolution in how students learn and produce scholarly work (Razack et al, 2021). AI tools are being employed to streamline various stages of the writing process, from providing automated feedback on grammar and style to assisting with research and citation. This integration offers the potential for personalized learning experiences, enabling students to identify and address their specific writing weaknesses more

effectively. Furthermore, AI can aid in brainstorming, outlining, and analyzing the rhetorical aspects of academic texts (Tomlinson et al, 2023). However, this technological advancement also necessitates a critical understanding of AI's limitations and ethical implications, emphasizing the importance of human oversight, critical thinking, and the development of an original scholarly voice within the evolving landscape of academic writing.

METHOD

Research Design

This research uses qualitative case study research methodology. Case study research designs and methods emphasise empirical inquiry to investigate phenomena in real-life contexts, especially when the boundaries between the phenomenon and its context are not clearly visible (Yin, 2013). This research design is based on the interpretive paradigm, which aims to explore the potential benefits of implementing artificial intelligence-based learning in teaching academic writing at an Indonesian private university. A case study approach was chosen to provide a deep insight into the potential benefits of integrating AI-based applications into language lessons in academic writing classes.

Research Subject

The research subjects consisted of 3 lecturers who had taught English Academic Writing courses at Universitas Muhammadiyah Makassar, which formed the basis for a comprehensive assessment of lecturers' perceptions of integrating AI-based instruction in Academic Writing learning. The subjects were selected based on criteria such as proficiency level in the use of artificial intelligence-based applications and willingness to participate in the study. The selected subjects showed English academic writing teaching experience above 5 years, as confirmed by the academic records provided by the head of the English education study programme. Hence, lecturers were selected as the research sample to ensure a good representation of academic performance within the scope of this study.

Procedures of Data Collection

Data was collected through semi-structured interviews with 3 English lecturers who teach Academic writing courses. These interviews allowed for an in-depth exploration of the lecturers' experiences of the opportunities and challenges to AI-based learning of

English academic writing. Each interview lasted between 10 and 15 minutes and was conducted in person.

Data Analysis

Data were analysed using thematic analysis (Miles & Huberman, 1994). Interviews were transcribed, and the transcripts were read several times to identify recurring themes. Codes were assigned to segments of data, and these codes were then grouped into broader themes, which are key aspects of how lecturers perceive when artificial intelligence is integrated into academic writing learning. The themes that emerged from the analyses included opportunities for student skill development in the integration process.

FINDINGS

The results of this study provide an in-depth reflection on the potential benefits of using AI-based instruction in teaching academic writing from the lecturers' perspective. The finding concerns the potential benefits of AI-based instruction in teaching academic writing. This study found five potential benefits: personalized learning and feedback, increased efficiency and productivity of lecturers, improved quality of teaching and learning, innovation in teaching methods, and preparation of students for the digital era.

Personalized Learning and Feedback

The benefits of personalised learning and feedback in teaching AI-based academic writing are significant and can have a positive impact on the teaching of academic writing. This is shown by the following lecturer's excerpt:

"In my experience, AI can analyse students' error patterns and individual strengths in their writing more deeply and efficiently than manual analysis. This allows lecturers to identify specific areas that each student needs to improve". P1

This opinion highlights AI's ability to analyze student writing more thoroughly and efficiently than manual methods. AI tools can quickly detect recurring errors (grammar, structure, coherence) and track individual progress, providing data-driven insights that might be missed in traditional grading. By identifying each student's unique strengths and weaknesses, AI enables personalized feedback, helping lecturers target specific areas for improvement. While human judgment remains essential for nuanced evaluation, AI enhances the process by saving time, reducing bias, and offering scalable, consistent analysis, ultimately supporting more effective teaching and learning.

Increased efficiency and productivity of lecturers

As lecturer who teach AI-based academic writing in an Indonesian private university, lecturers see increased efficiency and productivity as one of the main benefits of AI integration. this is indicated by the following lecturers' opinions:

"AI can assist in routine lecturer tasks such as automatically checking for grammar, spelling, and potential plagiarism. This frees up lecturers' time to focus on more substantive aspects of student writing, such as the quality of argumentation, critical analysis, and idea development". P2

AI enhances lecturer efficiency by automating routine tasks like grammar checks, spelling corrections, and plagiarism detection, which are time-consuming when done manually. By handling these mechanical aspects, AI allows educators to redirect their efforts toward higher-value feedback, such as strengthening arguments, refining critical analysis, and fostering creative thinking. This shift not only boosts productivity by saving hours of grading time but also improves the quality of instruction, as lecturers can focus on deepening student learning rather than correcting basic errors. The result is a more effective and streamlined teaching process.

Improved quality of teaching and learning

The integration of AI in teaching academic writing not only increases efficiency but also significantly improves the quality of the teaching and learning process. Students receive more personalised learning, richer and more timely feedback, and the opportunity to develop their writing skills more effectively. This is based on the following opinion of one of the lecturers:

"With the help of AI in basic tasks, lecturers can shift the focus of teaching to the development of critical thinking, analysis, synthesis, and evaluation skills in academic writing." P3

This opinion stated that by automating fundamental aspects of academic writing instruction through AI, such as grammar and plagiarism checks, lecturers are freed from time-consuming basic error correction. This crucial shift allows them to dedicate their expertise and classroom time to cultivating higher-order cognitive skills in students. Consequently, the quality of teaching and learning is enhanced as the focus moves beyond surface-level mechanics to the core of academic rigor: developing students' abilities to think critically, analyze information deeply, synthesize complex ideas, and evaluate arguments effectively in their writing. This ultimately leads to a more profound and impactful learning experience, fostering more capable and insightful academic writers.

Innovation in teaching method

The integration of AI in education enables the adoption of innovative, learner-centred pedagogies that align with 21st-century competencies. By facilitating experimental and adaptive teaching approaches, AI enhances the relevance and engagement of academic writing instruction for digitally native students. Simultaneously, it equips educators with advanced methodologies to foster deeper comprehension and cultivate comprehensive writing proficiencies. This can be seen by the following statement:

“AI can facilitate the development of more innovative and engaging writing tasks, for example, by utilising some AI applications that can display detailed information and detect writing errors.” P1

This statement explains that integrating AI empowers a significant pedagogical shift towards innovative teaching methods in academic writing. By leveraging AI applications capable of providing detailed information and automatically detecting writing errors, lecturers can move beyond traditional essay formats. This enables the creation of more engaging tasks, such as assignments that require students to analyze AI-generated feedback on their own or others' writing, utilize AI tools to explore different rhetorical strategies, or even critically evaluate the output of AI writing assistants. This fosters a more dynamic and interactive learning environment, encouraging students to actively engage with technology as a tool for understanding and improving their academic writing skills in novel ways.

Preparation of students for the digital era

Integrating AI in the teaching of academic writing equips students with essential skills and understanding to succeed in this digital era that is increasingly dominated by artificial intelligence technology. It can be seen in the following statement:

"With the integration of AI, students learn to evaluate and use AI tools critically and responsibly, developing digital literacy that is essential for their future." P3

This statement explains that embedding AI into academic writing instruction directly prepares students for the digital era by fostering crucial digital literacy skills. As students interact with AI tools for writing assistance, feedback, and analysis, they learn to critically assess the technology's capabilities and limitations. This hands-on experience cultivates the ability to use AI responsibly and ethically in academic contexts, a skill set that will be increasingly vital in their future studies and professional lives. By understanding how to

leverage AI effectively and discerningly, students develop the essential digital literacy needed to navigate and thrive in a technology-driven world.

DISCUSSION

The findings of this study illuminate five significant potential benefits of integrating Artificial Intelligence (AI) into the teaching of academic writing from the perspective of lecturers at an Indonesian private university. These benefits, namely personalized learning and feedback, increased lecturer efficiency and productivity, improved quality of teaching and learning, innovation in teaching methods, and preparation of students for the digital era, resonate with broader discussions in educational technology and applied linguistics. The lecturers' insights provide valuable empirical grounding for exploring how AI can reshape the landscape of academic writing instruction within a specific Indonesian higher education context.

The identified benefit of personalized learning and feedback aligns strongly with Vygotsky's Zone of Proximal Development (ZPD) theory (1978). The ZPD posits that learners progress most effectively with guidance that is slightly beyond their current independent capabilities (Lasmawan & Budiarta, 2020). AI's ability to analyze student error patterns and individual strengths, as highlighted by Lecturer P1, allows for the provision of feedback and learning resources precisely tailored to each student's ZPD. This targeted support, unlike generic feedback often necessitated by the constraints of manual grading, can scaffold students' learning more effectively, pushing them towards greater mastery of academic writing conventions. The efficiency of AI in identifying these individual needs also allows lecturers to focus their direct intervention on the most critical areas for each student, optimizing their instructional time (Jian,2023).

The second identified benefit, increased efficiency and productivity of lecturers, addresses a significant challenge in higher education. The time-intensive nature of grading and providing feedback on academic writing often limits the time lecturers can dedicate to other crucial aspects of their role, such as curriculum development and research (Kurt & Kurt, 2024). Lecturer P2's observation that AI can automate routine tasks like grammar and plagiarism checks directly speaks to the potential of technology to alleviate this burden. This aligns with principles of effective workload management and the strategic use of technology to enhance pedagogical capacity. By offloading these foundational tasks to AI, lecturers can reallocate their expertise towards fostering higher-order thinking and

providing more substantive feedback on the core elements of academic discourse, such as argumentation and critical analysis (Ma et al., 2024).

The improvement in the quality of teaching and learning, the third key finding, is a direct consequence of the personalized support and increased lecturer focus enabled by AI. Lecturer P3's statement emphasizing the shift towards developing critical thinking, analysis, synthesis, and evaluation skills underscores a fundamental goal of academic writing instruction. By freeing lecturers from the meticulous task of error correction, AI facilitates a pedagogical shift towards cultivating the higher-level cognitive abilities essential for academic success (Hong & Guo, 2024). This aligns with Bloom's Taxonomy (1956), which emphasizes a hierarchy of learning objectives, with analysis, synthesis, and evaluation representing more complex and sophisticated levels of cognitive processing (Adams, 2015). AI serves as a tool that allows educators to prioritize these higher-order skills in their teaching.

The fourth benefit identified, innovation in teaching methods, reflects the transformative potential of AI in pedagogical practices. Lecturer P1's description of AI enabling more engaging and interactive tasks resonates with constructivist learning theories, which emphasize active student engagement and the construction of knowledge through experience (Piaget, 1977). AI applications that provide detailed information and detect errors can be integrated into novel assignments that require students to critically evaluate AI feedback, experiment with different writing strategies, or analyze the strengths and weaknesses of AI-generated text (Ma et al., 2024). This moves beyond traditional essay-based assessments and fosters a more dynamic and technologically integrated learning environment, catering to the learning preferences of digitally native students.

Finally, the preparation of students for the digital era, as highlighted by Lecturer P3, is a crucial outcome in today's technologically driven world. The ability to critically evaluate and responsibly use AI tools is becoming an increasingly essential skill for academic and professional success. By integrating AI into the academic writing curriculum, universities are not only enhancing students' writing abilities but also equipping them with vital digital literacy skills. This aligns with the concept of "technological pedagogical content knowledge" (TPACK) (Mishra & Koehler, 2006), which emphasizes the importance of educators understanding how technology can be effectively integrated with pedagogical strategies and subject matter knowledge to enhance learning. By engaging with AI in their academic writing, students develop a nuanced

understanding of its capabilities and limitations, preparing them to be informed and responsible users of AI in their future endeavors.

CONCLUSION

In conclusion, the findings of this study from the perspective of lecturers at an Indonesian private university strongly suggest that the integration of AI holds significant promise for enhancing the teaching and learning of academic writing. The potential benefits identified, personalized learning, increased lecturer efficiency, improved quality of instruction, innovative teaching methods, and preparation for the digital era, are well-supported by established educational theories and address key challenges and opportunities in contemporary higher education. As Indonesian private universities continue to navigate the evolving technological landscape, a thoughtful and strategic integration of AI in academic writing courses has the potential to significantly enrich the educational experience for both students and faculty, ultimately fostering more effective and digitally literate academic writers.

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