

Integrating AI in academic writing: Lecturers and students' experiences related to benefits and challenges

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Abstract

The rapid development of Generative Artificial Intelligence (Gen AI) has influenced how English as a Foreign Language (EFL) learners and educators engage in academic writing. This study aims to explore how lecturers and students in Indonesian higher education integrate AI tools into their academic writing practices, perceive benefits and challenges of using AI, and concern with ethical considerations. Using a qualitative approach combining interviews and photovoice, the study involved thirteen participants from western, central, and eastern Indonesia. The findings show that AI tools are used not only for linguistic assistance but also for idea generation, prompt refinement, and collaborative meaning-making, reflecting an interactive relationship between users and technology. Participants reported that AI improves efficiency, creativity, and clarity in writing, while concerns were raised regarding hallucinated references, inconsistency, and overreliance that may reduce critical thinking and authenticity. The study also finds that AI should be used ethically as a complementary partner that supports, rather than replaces, human intellect in academic writing. The main ethical considerations include maintaining authorship, content verification, and proper referencing. The findings imply the need for pedagogical frameworks and institutional policies that promote ethical, reflective, and responsible AI use in higher education.

Keywords: *Academic writing, artificial Intelligence, EFL context, higher education, Indonesia*

INTRODUCTION

The use of AI in education has moved beyond its initial skepticism to an active integration of the technology in the learning and teaching activities. Educators and education researchers have turned their perspective into a critical, yet curious standpoint, amid the growing interest and widespread adoption of AI ([Belkina et al., 2025](#); [Chen et al., 2025](#)). Academic writing course receives a particular attention as it is immediately affected by the advancement of this fast-growing technology, which eventually leads to a more critical impact for the research dissemination practices in academia ([Al-Sofi, 2024](#); [Baek et al., 2024](#); [van Niekerk et al., 2025](#); [Wang et al., 2024](#)). This is especially the case in higher education context, given that many academic writers begin their comprehensive training in higher education. In universities and colleges, their writing skills are developed either from a course dedicated to academic writing, or to an extent multiple other courses as higher education inherently incorporates academic writing in the learning activities. This presents an opportunity for intervention, to prepare prospective researchers and writers with potential challenges in the AI-mediated landscape of research dissemination.

As to write is to generate text, lecturers and students would be quick to notice that the most basic feature of generative AI allows for the creation of full pieces of writing in a matter of seconds. This nature of AI may prove hard to resist for academic writers, but notably for non-native English writers amid the English-dominated scholarly publishing. In higher education settings, lecturers and students are expected to write and engage in various forms of academic texts. Such tasks present their own inherently unique challenges in EFL contexts, as EFL writers are to deal with complex cognitive processes required of academic writing while simultaneously contending with the second language barriers. Studies have recorded some concerns regarding academic writing in EFL settings like linguistic difficulties, cognitive constraints, and psychological factors ([Finn, 2018](#); [Prescott, 2018](#); [Rohmah & Muslim, 2020](#)).

These investigations relate the struggles with culturally rooted differences between English and the writers' first language, framed within the process of writing following English academic conventions. Consequently, problems arise which include rhetorical limitations, overuse and misuse of linguistic features, and overall lack of awareness of genre and readership ([Bian & Wang, 2016](#)). These issues are further entangled with obstacles not confined to EFL writing such as writer's block, time management, or concerns over plagiarism. Artificial Intelligence, as though evident in the EFL writing discourse within the past years, has been designated as potential 'equalizer' to aid non-native English speakers in overcoming language-related disadvantages in their academic writing ([Cheng et al., 2025](#); [Pretorius et al., 2025](#)). This is where the discussion of AI-assisted academic writing in the EFL (English as a Foreign Language) context becomes a noteworthy setting for exploration.

A growing number of studies on the use of AI in academic writing, particularly generative AI, has addressed the many benefits and challenges of AI utilization for developing writers. Generative AI has been reported to be valuable in idea-generation and brainstorming, streamlining the writing process, acting as research assistance, improving the tone, style, or quality of writing in general ([Bedington et al., 2024](#); [Jin et al., 2025](#); [Kim et al., 2025](#); [Salih et al., 2025](#); [Khalifa & Albadawy, 2024](#)), and even aspects less readily apparent to writing such as reducing cognitive load and anxiety ([Liu et al., 2024](#); [Mei et al., 2025](#); [Wang et al., 2024](#); [Wang & Wang, 2025](#)). With opportunities and benefits, however, concerns and criticisms emerge. Ethical issues like plagiarism and threats to academic integrity ([Balalle & Pannilage, 2025](#); [Eke, 2023](#)), inaccuracy and unreliability ([Altmae et al., 2023](#); [Chan & Hu, 2023](#); [Garg et al., 2024](#)), bias, stereotyping, and inequity ([Colby, 2025](#); [Dang & Wang, 2024](#); [Sun & Lan, 2025](#)), as well as security, data privacy, and confidentiality ([Chan & Hu, 2023](#); [Kostopolus, 2025](#); [Pretorius et al., 2025](#); [Wang et al., 2024](#)) are often associated with the use of AI in academic writing. Beyond ethical issues, challenges related to overreliance and diminished critical thinking, creativity, and learning skills ([Al-Sofi, 2024](#); [Huang & Wu, 2025](#);

[Marzuki et al., 2023](#)) are further causes for concern as they reflect the very opposite of what was initially expected from AI in learning academic writing.

These opportunities and limitations of AI use in academic writing, nevertheless, remain subjects to ongoing discussion as a closer look at these findings reveal different layers of complexities. It may be too early to say that generative AI would improve writing quality as some studies reported limitations in rhetorical depth if not simply generic ([Alghazo et al., 2025](#); [Yao & Liu, 2025](#)). It is also easy to discern that reliance on AI could compromise critical thinking and creativity, while studies like [Colby's \(2025\)](#) and [Wang's et al. \(2024\)](#) also show how AI can be used to foster critical thinking. Meanwhile, another equally well-established concern, i.e. academic integrity and ethical use, has been followed by a shift in perspective among the researchers from apprehension to a more solution-oriented stance ([Smit et al., 2025](#); [Vetter, 2024](#)).

As outlined above, the emerging literature reflects the increasing academic interest towards AI use in EFL academic writing context across different sociocultural settings. Two systematic reviews on AI's role in education, [Li et al. \(2025\)](#) and [Belkina et al. \(2025\)](#), consistently identified significant representation from East Asia with Europe, North America, Africa, and the Middle East showing moderate activities. As AI-related determinants like perceptions, usage patterns, ethical considerations, access, along with linguistic and cultural influence, naturally differ across regions, it is notable that the regions of Southeast Asia remain underrepresented. In light of the need for further empirical attention to this particular region, the current study brings into focus the EFL context in Indonesia. As the few existing studies addressing the issue in the country remain mostly confined to a narrow set of sites or regionally restricted, the current study offers a more comprehensive picture of the country by recruiting participants across Indonesia, covering western, central, and eastern Indonesia. This is particularly relevant to this country which is known for its culturally and socioeconomically diverse demography, shaped by regional differences in population density, ethnicity, and access to resources. Alongside this, the study also involved both lecturers and students as participants, as studies often leaned toward one group or the other. Building on the substantial body of research combining statistical reach of quantitative design with the interpretive depth of qualitative approach, the current study extends the latter methodological repertoire by incorporating photovoice. As the previous studies tend to employ semi-structured interview for their qualitative design, this study introduces photovoice to further offer a multifaceted, participatory, critically reflective, and action-oriented approach, rather than simply documenting lived experiences ([Wang & Burris, 1997](#)).

Against the preceding discussion and motivated by the gaps and opportunities, this study aims to provide a comprehensive account of how Indonesian EFL students and lecturers perceive and experience the integration of AI in academic writing, including its effectiveness, benefits, and challenges. It also seeks to further investigate the extent to which AI is incorporated into the teaching and learning of academic writing in higher education institutions. By pursuing these objectives, this study contributes to the literature on AI in EFL academic writing by providing empirical evidence on how AI is perceived and integrated into the academic practices across the diverse landscapes of Indonesian EFL contexts. From a methodological standpoint, the inclusion of photovoice in the study offers a more critically conscious participatory lens which further enables richer insights into lived experiences. The findings are expected to benefit both students and lecturers in the field of EFL, as well as policymakers to advise responsible and ethical AI integration in academic writing.

Research Questions:

1. To what extent do EFL students and lecturers in Indonesia integrate AI in academic writing?
2. How do the EFL students and lecturers perceive the benefits and challenges of integrating AI in academic writing?

3. What are the ethical issues raised by the EFL students and lecturers with regard to the use of AI?

RESEARCH METHOD

This is a qualitative study aiming to examine Indonesian EFL students and lecturers' use and perception of Generative Artificial Intelligence (Gen AI) in academic writing courses. The research involved conducting a survey among EFL students and lecturers across Indonesia to explore the extent to which they integrate AI tools in academic writing practices. The quantitative data were collected through a questionnaire consisting of five sections that included both Likert-scale items and open-ended questions. A total of 264 participants completed the survey. From these respondents, a number of participants were purposively selected to take part in the qualitative phase of the study, which included semi-structured interviews and photovoice data collection. Thirteen participants (7 students and 6 lecturers) representing three major areas in Indonesia (i.e., western, central, and eastern) were recruited for this phase to gain deeper insights into their experiences regarding the benefits and challenges of integrating AI in academic writing. All lecturers in this study were English language lecturers from six different universities who had been teaching academic writing for several years. Similarly, all student participants were English language learners who had taken and passed academic writing courses at their universities. These students were drawn from five different universities. More detailed information and profiles of the participants are presented in following Table 1.

Table 1

Participants' demography

Participant	Status	Gender	Region
1. SS1	Student	Male	Western Indonesia
2. SS2	Student	Female	Western Indonesia
3. SS3	Student	Female	Central Indonesia
4. SS4	Student	Female	Central Indonesia
5. SS5	Student	Female	Eastern Indonesia
6. SS6	Student	Female	Eastern Indonesia
7. SS7	Student	Female	Eastern Indonesia
8. EL1	Lecturer	Male	Western Indonesia
9. EL2	Lecturer	Female	Western Indonesia
10. EL3	Lecturer	Male	Central Indonesia
11. EL4	Lecturer	Male	Central Indonesia
12. EL5	Lecturer	Female	Eastern Indonesia
13. EL6	Lecturer	Female	Eastern Indonesia

The recorded interviews were conducted online via Zoom and lasted for 30-40 minutes for each participant. Prior to the interview, all participants were asked to sign an informed consent form to confirm that they understood the purpose of the research and the risks and benefits, and that they were willing to participate voluntarily. The interviews started with a brief introduction from the researchers. The research objectives and reiterated

the confidentiality agreement were explained thoroughly. Following the introduction was the discussion about the photos submitted by the participants. They were asked to share original photos captured by them and explain how the photos reflected their experiences in utilizing Gen AI for academic writing. After explaining what the photos mean, the participants then started to answer the interview questions from the researchers. Seven guided interview questions were asked to explore how the participants engaged with Gen AI for academic writing. Further information about the interview guidelines is presented in the table below.

Table 2

Interview guideline

Aspect	Interview guideline
Experience and adoption	<ol style="list-style-type: none"> 1. How long have you been using or known about AI-generated tools for academic writing? 2. Do you think most students or lecturers at your university also use AI-generated tools? Why or why not?
AI Tools and application	<ol style="list-style-type: none"> 3. What AI-generated tools do you use most often for your academic writing? 4. How do you usually use those AI tools in your academic tasks or schoolwork?
Perceived benefit and challenge	<ol style="list-style-type: none"> 5. What do you like the most or find most beneficial about using AI-generated tools? 6. What do you dislike or find most challenging when using AI-generated tools?
Impact	<ol style="list-style-type: none"> 7. Do you feel that using AI-generated tools has helped you become a better writer? Why or why not?

The interviews from all participants, including their narration for each photo, were then transcribed, coded, and thematized following the thematic analysis from Braun and Clarke (2006). To avoid bias and to ensure trustworthiness, each researcher, who interviewed three to four participants, did the peer debriefing by asking each other to read and check the interpretation of the participants' responses. After all the researchers have shared the same perceptions, the final themes were summarized and reported.

FINDINGS AND DISCUSSION

The findings of this study are structured into two points as follow: (1) the extent of AI integration in the academic writing practices of EFL students and lecturers in Indonesia, and (2) the perceived benefits and challenges that EFL students and lecturers in Indonesia face when using AI for academic writing.

AI Integration in the academic writing practices of EFL students and lecturers

Utilization and effectiveness of AI-generated tools in academic writing

During the process of academic writing, both Indonesian EFL students and lecturers utilize Gen AI in various ways. For example, at the early stages of the writing process, many participants reported using gen AI to assist them in brainstorming or generating ideas, organizing them, and mind-mapping and outlining content. This aligns with previous

findings that generative AI supports idea generation and streamlines the initial stages of writing, as reported by [Bedington et al. \(2024\)](#), [Kim et al. \(2025\)](#), and [Salih et al. \(2025\)](#). These findings corroborate previous literature suggesting that AI can enhance efficiency, assist in language editing, and contribute to overall writing quality ([Jin et al., 2025](#); [Khalifa & Albadawy, 2024](#); [Liu et al., 2024](#)). One practical experience of utilizing gen AI for brainstorming ideas is done by students as seen in the excerpt below.

"At the beginning of the writing process, we were asked to think about the theme, title and ideas for our writing. Then, I asked ChatGPT to give me suggestions for the suitable title for my writing." (SS2, Interview)

Another student reported that whenever she got stuck, she usually consulted with ChatGPT for ideas. Then, she developed them and contextualized them.

"I usually use AI when I have writing assignments from my lecturer. When I get stuck on where to start writing, I search ChatGPT for inspiration. Then I develop and adapt these ideas to the context of the assignment given by my lecturer." (SS7, Interview)

These excerpts reflect what [Mei et al. \(2025\)](#) and [Wang & Wang \(2025\)](#) identified as AI's role in reducing cognitive load and writing anxiety, allowing writers to reengage creatively with their own ideas. Similarly, lecturers also pointed out how they use gen AI for generating ideas and outlining content. Using a similar tool, i.e., ChatGPT, one of the lecturers tells how he used it for academic writing.

"I have used this chatbot to help me brainstorm with ideas. For example, if I already have a title in mind, I will ask AI to suggest an outline of the framework to help me write the background." (EL3, Interview)

This finding supports [Colby's \(2025\)](#) argument that AI can foster critical thinking and organizational clarity when used interactively rather than dependently. The process of writing, especially in the early stages, is oftentimes challenging and puzzling for both students and lecturers. Especially for students, when given instructions to write, they usually do not know what to write, how to start, and how to structure their writing. To overcome the challenges of starting and structuring their writing, students and lectures are now utilizing gen AI for assistance. Participants EL5 and SS4 shared two photos to illustrate how gen AI is like a light for them during the writing process.

Figure 1

Moonlight – AI is like moonlight that gives inspiration



Note. Photovoice image provided by participant (SS4).

Figure 2

A light bulb – AI is like a light in the darkness



Note. Photovoice image provided by participant (EL5).

Both the student (SS4) and lecturer (EL5) visualized academic writing as a darkness and thus gen AI is depicted as moonlight and a light bulb that can enlighten them by giving ideas and inspiration. EL5 further stated her explanation as follows.

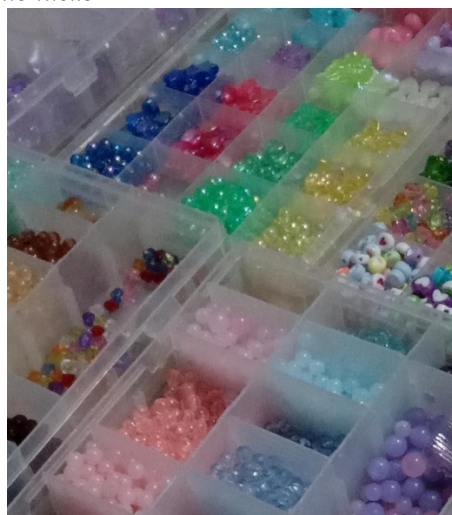
"I took this light bulb photo to visualize AI, because to me, AI is like a light in the dark. By darkness, I mean the times when I get stuck for ideas. AI is like a shortcut to finding inspiration for my writing." (EL5, Photovoice)

This metaphorical representation resonates with [Pretorius et al. \(2025\)](#), who conceptualized AI as an "equalizer" that empowers non-native English writers to overcome linguistic barriers and creative stagnation. In addition to visualizing AI as light, other students also visualized AI in a more bright and colorful way. They share pictures of colorful beads, a vibrant beach scene with colorful beanbags and umbrellas, and a bright sky as seen in Figures 3, 4, and 5. As they reported, in the process of writing, AI provides them with a wide range of ideas that lead them to the topic they are going to write about.

"When it comes to AI, I would like to describe this picture (Figure 5) as AI because it gives me a lot of ideas, and also, it is colorful, with a lot of flowers. AI also colors my mind when I'm stuck or thinking, 'Oh, how am I going to do this?' So it's like a creative space." (SS5, Photovoice)

Figure 3

Colorful beads – AI gives various ideas



Note. Photovoice image provided by participant (SS4).

Figure 4

Colorful beanbags and umbrella – AI gives various responses



Note. Photovoice image provided by participant (SS3).

Figure 5

A bright sky – AI gives a lot of ideas



Note. Photovoice image provided by participant (SS5).

Such visualizations align with findings by [Liu et al. \(2024\)](#) that AI can reduce anxiety and promote creative engagement by offering emotional and cognitive support during complex writing tasks. Not only in the early stages of writing, participants of this study also reported how gen AI has assisted them during the writing process. Once they start writing, they utilize a number of AI tools, such as Quilbot, Deepseek, ChatGPT, Perplexity, Consensus AI, DeepL, Elicit, and Notebook LM, to help them paraphrase, summarize and synthesize information, review literature, search for references, and translate texts. This variety of tools reflects what [Wang et al. \(2024\)](#) describe as the “multi-functional integration” of AI in academic writing workflows. One of the students, for example, stated that she used Quilbot for paraphrasing. However, she chose not to rely solely on the results from this AI tool. She, instead, re-phrased the result from Quilbot and developed her own arguments.

"I read from journals to get an initial understanding of the topic, then I paraphrased it first before diving into deep thinking about my own arguments. I paraphrased it at the beginning so that it wouldn't be considered plagiarism. I used Quilbot for that. After that, I started paraphrasing and began to develop my own arguments and conclusions. I used Deepseek AI to think more deeply about the research I was doing." (SS2, Interview)

This reflects [Al-Sofi's \(2024\)](#) and [Huang & Wu's \(2025\)](#) concern regarding balancing AI assistance with the preservation of originality and critical thinking. Some respondents also highlighted the benefit of using AI to polish their writing such as analyzing grammar accuracy, improving clarity, adjusting style, tone, or even humanizing the language produced by AI. Both student and lecturer mentioned in the following excerpt how they use AI for grammar checking.

"(I use) Grammarly to check whether the sentence structure is correct or not, to check the grammar accuracy." (SS6, Interview)

"... and finally, I ask ChatGPT to improve (the quality) for each paragraph. So, it is more language correction and grammar correction for ChatGPT." (EL1, Interview)

In addition to grammar correction, another student reported how he used AI tools to humanize the language they produced. This student stated that sometimes he thinks that the language style from AI is too machine-like as they often produce low-frequency words in their responses. SS1, therefore, leaves it to other AI tools to humanize it.

"I'll leave it to another AI to humanize it (the result). To be honest, I don't use the web humanizer. I use chatbots because they can produce the language style more like what I want." (SS1, Interview)

This echoes [Alghazo et al. \(2025\)](#) and [Yao & Liu \(2025\)](#), who noted that while AI can improve linguistic accuracy, it often lacks rhetorical depth and naturalness. In other words, AI still requires human intervention to achieve more authentic expression.

Interaction in integrating AI-generated tools in academic writing

The integration of AI-generated tools into academic writing involves not only passive use but also active and dynamic interaction between users and the tools ([Belkina et al., 2025](#); [Chen et al., 2025](#)). A key aspect of this interaction is the practice of correcting or refining prompts, often referred to as active re-prompting ([Jin et al., 2025](#); [Kim et al., 2025](#)). Participants in this research reported frequent engagement with AI in trial-and-error approaches to improve the specificity and relevance of AI-generated outputs. A significant number of participants indicated that achieving effective results from AI tools necessitated providing several prompts or detailed instructions to generate precise and relevant outputs (50.8%). Additionally, many respondents reported employing different strategies to adjust or refine AI-generated content to better reflect their personal writing style (45.1%). This iterative process highlights the importance of prompt engineering in achieving desired outcomes ([Bedington et al., 2024](#); [Colby, 2025](#); [Khalifa & Albadawy, 2024](#); [Wang et al., 2024](#)).

"I found my way of prompting. In one prompt, I usually write two, three, or even four sentences that precisely convey what I want. I tell the AI what kind of responses I want. The more detailed the prompt, the more accurate the responses." (SS2, Interview)

Another student explained the prompt engineering steps that he did when interacting with AI tools, particularly chatbots. He emphasized on setting the role for AI tools to ensure optimal results.

"First, I set the role, followed by the language – either English or Bahasa Indonesia. Then, I set the response format based on my expectations. I instruct the AI to give me short or long responses in the form of sentences or paragraphs. For example, when I asked AI for feedback on my writing, I set the role as a 'killer' and strict lecturer who would give me critical comments and rigorous review for my writing." (S1, Interview)

Another important interactional feature is the post-paraphrasing adjustment phase, during which users negotiate, refine, and evaluate the content generated by AI. Rather than

accepting AI outputs uncritically, users often revise and adapt the language to ensure accuracy, coherence, and appropriateness within their academic context ([Al-Sofi, 2024](#); [Baek et al., 2024](#); [van Niekerk et al., 2025](#)). This process reflects a collaborative form of meaning-making where human judgment remains central in shaping the final text ([Smit et al., 2025](#); [Vetter, 2024](#)). One of the lecturers mentioned that although he used Elicit to search for references, he rarely accepts the results unedited. He tracked down the sources suggested by Elicit and examined the content, reflecting awareness of issues related to accuracy and reliability ([Altmae et al., 2023](#); [Chan & Hu, 2023](#); [Garg et al., 2024](#)).

"I almost never take the summary or text generated by Elicit as it is. In my opinion, the conclusion it draws is ambiguous. This tool processes the text very quickly and I don't think it responds to what it needs to or what I expect. I would rather check the paper it recommends. Let's say there are four papers from the response, for example, I will take one and check its content and the reference." (EL1, Interview)

Meanwhile, one lecturer (EL1) visualized AI as a knife, a tool that helped him prepare meals. During the process of cooking the meals, humans use the knife to cut ingredients into various sizes and shapes, a process fundamental to proper preparation, even cooking, and the aesthetic presentation of a dish. AI, illustrated metaphorically as the knife, can do the same thing. The AI tools can be used alongside other tools, such as the human brain, a laptop and a pen, to produce academic writing. This process reflects the human-AI collaboration in shaping the final text ([Pretorius et al., 2025](#); [Smit et al., 2025](#); [Vetter, 2024](#)).

"I represent AI as a knife and the academic writing process as cooking food. AI is just one of the tools we can use. So I represent it as a knife because it can cut, speed things up, and make things look better. Meanwhile, the other tools are our own brains, then we need a laptop, writing tools, and other tools such as reference managers, and so on. Since writing is a process, and cooking is also a process that takes time (at least an hour depending on the menu), the use of AI is similar. It is merely a knife. If a knife is used, the result may look more appealing. But without a knife, can we still cook? Of course, we can. It just makes the process faster." (EL1, Interview)

The interaction in integrating AI-generated tools in academic writing between users and AI tools were also illustrated in a photo submitted by the participant. In Figure 6, one student (SS3) presented a group of students having a collaborative discussion in which one of them was operating a laptop. She explained that this photo is a symbol where AI is used as a tool to collaborate with ([Belkina et al., 2025](#)).

"This is a photo of students having a discussion. I illustrate AI as a tool used for collaborative learning. For example, when my friends and I are having a discussion, we interact with AI as a collaborative tool to make our discussion more focused." (SS3, Photovoice)

Figure 6*Students-AI collaboration in a group work*

Note. Photovoice image provided by participant (SS3).

The perceived benefits and challenges of integrating AI in academic writing

Utilization and effectiveness of AI-generated tools in academic writing

Some respondents also highlighted the benefit of using AI to gain alternative perspectives on their work, which supported critical thinking and content refinement ([Baek et al., 2024](#); [Pretorius et al., 2025](#)). Beyond academic purposes, AI tools were applied to complete non-academic tasks, such as designing surveys, categorizing data, and even replacing traditional tools like Google for quick information retrieval ([Khalifa & Albadawy, 2024](#)).

"The speed. The speed (of AI) at which it works is what helps me a lot. For example, I have a list of a thousand names, and I ask him to categorize them based on their scores, and so on. I cannot use Excel to work on it quickly so I ask AI tools to do it instead. Or otherwise, I have a survey on student satisfaction with administrative services. I need that survey in Google Forms, and I ask AI to transfer it into Google Forms, and it can process it quickly. And that's really helpful." (EL1, Interview)

The ability to complete tasks efficiently and quickly was also frequently mentioned as a key advantage of AI, especially for time-sensitive assignments ([Bedington et al., 2024](#)). One lecturer (EL5) explained that AI can save her time. It is helpful especially for junior lecturers like her. For example, AI tools can provide timely responses, as well as summarising things quickly ([Chen et al., 2025](#)).

"Not only saving time, AI can also help me find new perspectives. It can quickly find new ideas or innovations. Usually, when we use AI, it immediately summarizes things. AI can provide clear summaries like that. In addition to a fast response, it also helps us finish our work faster." (EL5, Interview)

Evaluation on the integration of AI-generated tools in academic writing

The evaluation of AI-generated tools in academic writing revealed a range of beneficial and limiting factors as experienced by users. On the positive side, participants noted that AI-assisted tools offer accurate, straightforward, and comprehensible outputs, making them accessible even for complex writing tasks ([Belkina et al., 2025](#); [Colby, 2025](#)). The tools were praised for their immediate response time and high time-efficiency, which significantly supported users in meeting deadlines and managing academic workloads ([Kim](#)

[et al., 2025](#)). Many also appreciated AI's ability to explore alternative perspectives and stimulate innovative thinking, particularly during the ideation and drafting stages ([Vetter, 2024](#)). Moreover, the tools demonstrated strong grammar accuracy and practicality in assisting with both surface-level language correction and deeper text generation, making them highly functional across various academic writing contexts ([Smit et al., 2025](#); [van Niekerk et al., 2025](#)). Two students explained how AI tools are helpful for them since they are flexible and accessible.

"In my opinion, AI is beneficial because it is accessible. We can access it anywhere and anytime as long as we connect to the internet." (SS1, Interview)

"This GPT is quite flexible in its use. It can be used anytime, and it's very easy to use. Just type in our question, press enter, and the answer will appear immediately. It's very easy." (SS4, Interview)

Along with the interview results, participants also reflected the evaluation of AI tools in academic writing through pictures. As illustrated in Figures 8 and 9, AI tools facilitate access to more information and simplify processes ([Wang & Burris, 1997](#); [Belkina et al., 2025](#)).

"First, there is a key representing AI tools, which means that it opens up more information. Now, with technology and AI tools, information is opened up as widely as possible without restrictions. Second, AI tools are like QRIS which makes things easier. The key word is "easier," meaning that in the past, we had to use cash and withdraw money first, but now there is QRIS, so it's easier. Similarly, AI reduces the time or steps that we used to take, so now it's easier and more instant." (EL3, Interview)

Figure 8

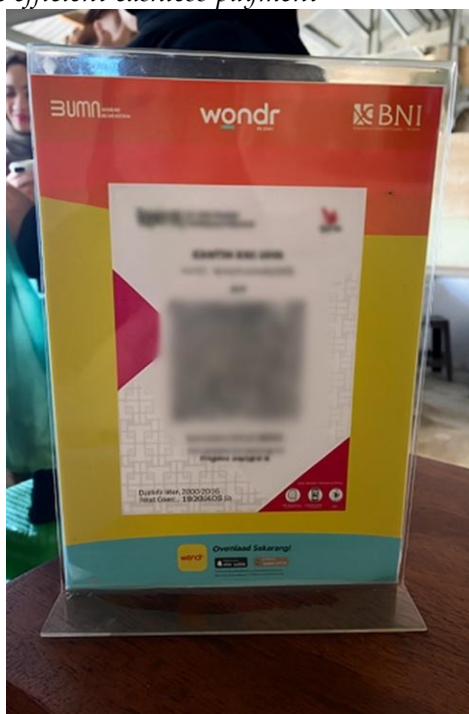
AI is like a key to open source of information



Note. Photovoice image provided by participant (EL3).

Figure 9

AI is like a QR code for a more efficient cashless payment



Note. Photovoice image provided by participant (EL3).

Despite the advantages, several challenges emerged from the interviews. A primary concern was the hallucinations where AI produces inaccuracy of some outputs, including misleading information and the generation of fake references, which compromise academic integrity and reliability ([Altmae et al., 2023](#); [Chan & Hu, 2023](#)). Users also criticized the overly formal and unnatural tone characteristic of “AI language,” which can lead to a lack of authenticity in student writing ([Al-Sofi, 2024](#)). Issues of content bias and mismatched writing styles were also observed, especially when AI-generated outputs did not align with the intended tone or disciplinary conventions ([Garg et al., 2024](#)).

“In terms of fake references, for ChatGPT and Perplexity, when I ask them to provide references, such as journal articles, I need to check the link first. Sometimes the sources were inaccurate. It’s a scam. The journal does not really exist.” (SS4, Interview)

Another issue for AI tools is related to inconsistent responses even when the same prompts were used ([Jin et al., 2025](#)). One lecturer explains this problem faced by his students.

“For academic writing, the main problem is the inconsistent results from AI. For example, a student asked AI to generate ideas for their writing but then, this student turned off his laptop and came back the next day. Eventually, the memory from the ChatGPT or Deepseek may no longer be accurate. Ultimately, the results are inconsistent compared to when it was first used, where it might have taken two or three hours to provide the prompt and then there was discussion within it.” (EL4, Interview)

Furthermore, some participants expressed concern about user overreliance, potentially leading to cognitive passivity and diminished critical thinking skills ([Baek et al., 2024](#); [Smit et al., 2025](#)). The inability of the AI to fully interpret complex or vague prompts sometimes led to misunderstandings, and participants felt that AI tools did not meet their expectations in terms of depth and nuance ([Pretorius et al., 2025](#)). One lecturer (EL3) gives examples of how AI cannot neither interpret nor analyze data, even for the simple ones.

“For example, asking AI to analyze data from interviews. There is a summary of the interviews, which we put into a table. We ask AI to read and translate it into a simple or complex analysis. It turns out that the results are not what we expected. So it turns out that its analytical capabilities are not as good as we had hoped.” (EL3, Interview)

Ethical considerations of AI-generated tools in academic writing

The integration of AI tools in academic writing also raises a number of ethical considerations and policy-related concerns that require attention ([Vetter, 2024](#); [van Niekerk et al., 2025](#)). One prominent issue identified is where users rely solely on AI-generated outputs without adequate evaluation or modification ([Chan & Hu, 2023](#)). Some other users, however, maintain their authorship of their own writing while leveraging AI for academic writing. They are convinced of their ability to control AI ([Belkina et al., 2025](#)). For example, when discussing a certain topic and they find AI hallucinating, it is their role to correct it. These users do not want to fully rely on the results provided by AI, since they are the writers, not AI. This concern of maintaining authorship of writing was clearly stated by one of the participants of this study (SS1) in the following excerpt.

"For example, AI helps me a lot when I write something. However, the outputs may be inaccurate because the references are fabricated. My role is to find accurate references, evaluate them, and complement this AI-generated content. We complement each other; neither I nor the AI work alone. So, we collaborate to produce work. But it is my writing." (SS1, Interview)

The practice where users fully depend on AI often leads to a lack of proper referencing, with some students unknowingly including fictional or fabricated sources produced by AI ([Al-Sofi, 2024](#); [Altmae et al., 2023](#)). Additionally, the absence of content verification increases the risk of plagiarism, especially when users fail to paraphrase or cite the generated information properly ([Garg et al., 2024](#)).

Figure 10

AI is like a tower to elevate our knowledge



Note. Photovoice image provided by participant (SS1).

Figure 11

A red light to illustrate the rules for using AI



Note. Photovoice image provided by participant (SS1).

Figure 12

A graveyard as a symbol of perish if we break the rules (of using AI)



Note. Photovoice image provided by participant (SS1).

The ethical consideration was also mentioned by one of the participants (SS1). When sharing his personal photos, he explained three images reflecting AI in academic writing from his perspective. The first picture is shown in Figure 10 in which he described AI as a tower to elevate knowledge. But then, it is also like a red light that illustrates the rules for using AI. Then comes a graveyard which shows the consequences of ignoring AI rules that can lead to our perishing ([Wang & Burris, 1997](#)).

These findings highlight the broader implications of AI integration in academic writing from socio-constructivist, humanistic, and ethical perspectives. The opportunities offered by AI, such as collaboration, knowledge construction, and accessibility, reflect its potential to support socio-constructivist learning by enabling interaction between human cognition and technological mediation. However, these benefits are accompanied by

challenges that may undermine authentic learning, including overreliance, reduced critical engagement, and ethical ambiguity in authorship. Therefore, fostering human and ethical awareness becomes essential to ensure that the use of AI in academic writing remains reflective, responsible, and aligned with the core values of education that emphasize critical thinking, autonomy, and intellectual integrity.

CONCLUSIONS

The findings highlight that the integration of AI-generated tools in academic writing fosters an interactive, iterative, and collaborative relationship between users and technology. Rather than serving merely as passive aids, these tools actively support users in refining prompts, generating ideas, and enhancing linguistic accuracy, while also facilitating efficiency and creativity in both academic and non-academic contexts. However, this integration also underscores the indispensable role of human agency in which users remain central in evaluating, modifying, and contextualizing AI outputs to maintain authorship, accuracy, and ethical integrity. Despite clear advantages in accessibility, speed, and flexibility, challenges such as hallucinated references, inconsistent responses, stylistic incongruities, and risks of cognitive dependency demand critical awareness and responsible use. That is to say, effective AI adoption in academic writing depends not only on technological competence but also on ethical judgment and reflective engagement, ensuring that human intellect continues to guide and shape the academic knowledge-making process.

Although this study provides valuable insights into how EFL lecturers and students in Indonesia integrate AI-generated tools in academic writing, several limitations should be acknowledged. First, the study involved a limited number of interview and photovoice participants, which may not fully represent the diversity of experiences across all regions of Indonesia. Second, the research relied on self-reported data, which might be influenced by participants' perceptions and awareness of AI use rather than direct observation of actual writing practices. Third, as the study focused on the early adoption of AI tools, the findings may evolve alongside technological and policy developments in higher education. Future research is encouraged to employ longitudinal or classroom-based observations to explore the dynamic interaction between AI use and writing development over time. Expanding the study to include participants from different academic disciplines and cultural contexts could also provide a more comprehensive understanding of AI's pedagogical and ethical implications in academic writing.

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