

Exploring the Impact of Generative AI Tools on English Writing Skills among English Education Students: A Case Study of Students at Universitas Muhammadiyah Semarang (UNIMUS)

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Abstract: The integration of generative artificial intelligence (AI) tools, such as ChatGPT, Grammarly, and QuillBot, has transformed the way students develop and refine their writing skills in higher education. This study aims to explore how English Education students at the University of Muhammadiyah Semarang (UNIMUS) perceive and utilize these tools to enhance their English writing competence. Using a qualitative research design, data were collected through an open-ended questionnaire distributed to 23 students who had experience using AI-based writing assistants. The responses were analyzed thematically following Braun and Clarke's (2021) framework to identify patterns in students' perceptions, experiences, and challenges. The findings indicate that while students view AI tools as helpful companions for improving grammar, vocabulary, and text organization, they also acknowledge risks such as overreliance and reduced creativity. These insights emphasize the importance of promoting AI literacy and responsible tool usage among future English teachers. Overall, the study contributes to the ongoing discussion on digital transformation in English language education and offers practical implications for integrating AI-assisted writing tools in higher education settings.

Keywords: generative AI, English writing skills, English Education students, ChatGPT, qualitative research

INTRODUCTION

In recent years, the rise of Generative Artificial Intelligence (AI) tools such as *ChatGPT*, *GrammarlyGO*, and *Gemini* has transformed how learners of English as a Foreign Language (EFL) engage with the writing process. These tools not only help generate coherent and contextually appropriate sentences but also assist in refining grammar, expanding vocabulary choices, and offering instant feedback throughout composition. As noted by Lo (2025), feedback from generative AI greatly supports students in revising their essays and fosters more personalized learning. Likewise, Polakova (2024) found that AI-assisted feedback contributes to improving both the structural and grammatical quality of students' academic writing.

The increasing use of AI in higher education, especially in English Language Teaching (ELT), has led to wide discussions about both its benefits for learning and the challenges it brings. Recent studies by Mahapatra (2024) and Mekheimer (2025) show that students can improve their writing skills through tools like ChatGPT. However, these studies also point out some negative effects, such as relying too much on technology and losing

creativity in the writing process. These mixed findings suggest that it is important to understand how AI tools influence students' thinking process and their independence in writing.

In the EFL context, especially among English Education students, this issue becomes even more significant. As future English teachers, these students are not only expected to develop strong writing skills but also to gain awareness of how to use digital tools ethically and effectively in language learning. Teng (2024) highlighted that many EFL learners consider AI as a helpful partner in learning rather than as a threat. However, it remains uncertain whether this positive view leads to real improvement in writing competence. Similarly, Ho (2024) and Khalifa (2024) argued that while AI can enhance academic writing fluency, it may also reduce students' authentic engagement in generating ideas and revising their own work.

Despite these findings, there is still limited understanding of how English Education students actually use AI tools to complete their writing tasks and how such practices influence their writing development. Many students tend to depend on applications like ChatGPT or Grammarly to finish essays quickly, yet few studies have examined whether this habit supports their learning or creates dependency on the technology. This gap indicates the need to further explore the real impact of generative AI tools on students' writing performance, learning autonomy, and pedagogical awareness, particularly among English Education students at Universitas Muhammadiyah Semarang (UNIMUS).

Considering the issues outlined in the background, this study aims to explore how English Education students at Universitas Muhammadiyah Semarang (UNIMUS) utilize generative AI tools in their writing practices and how these tools influence their writing development. The main purpose of this research is to understand not only the perceived benefits of using AI for improving writing accuracy and fluency but also the possible drawbacks, such as dependency on technology and reduced self-revision. Specifically, the study focuses on identifying the extent to which students use tools like ChatGPT and Grammarly to complete their writing tasks, their perceptions of these tools' effectiveness, and how such use affects their writing autonomy and critical engagement in the writing process.

Despite the growing academic attention to the use of generative AI in English language learning, several important research gaps still exist. Most recent studies in the *Journal of English Language Learning (JELL)* have explored students' and lecturers' perceptions of AI tools such as ChatGPT, QuillBot, and Grammarly in assisting writing tasks (Purnama, Kartika Putra, Arifin, & Azizah, 2024; Syarifah & Fakhruddin, 2024). While these studies highlight that AI tools can improve grammar accuracy, vocabulary choice, and idea organization, they primarily focus on perceptions and general experiences rather than on measurable impacts on writing performance. Moreover, this study focusing on how English Education students—especially pre-service teachers in Indonesia—integrate these tools in their actual writing process and how this affects their writing autonomy and critical thinking. Hence, there is a need for more focused research that examines the pedagogical implications of AI-assisted writing in local higher education contexts, particularly in English Education programs.

Therefore, this study aims to investigate the impact of generative AI tools on the English writing skills of English Education students, focusing on their writing performance, learning perceptions, and implications for their future roles as English teachers in Indonesia. By addressing these research gaps, the study seeks to contribute to the growing discussion on

digital transformation in language education and to provide practical insights into how AI-based writing tools can be effectively and ethically integrated into higher education contexts.

METHOD

This study adopted a qualitative research design to explore how English Education students at the University of Muhammadiyah Semarang (UNIMUS) perceive and use generative AI tools in their writing process. The participants were 23 English Education students who had prior experience with AI-based applications such as ChatGPT, Grammarly, and QuillBot. Data were collected using an open-ended questionnaire to allow participants to share their thoughts, experiences, and reflections in detail. This approach provided rich and descriptive data, which are essential in understanding students' perceptions and attitudes (Creswell & Poth, 2018). The open-ended questions focused on how students integrate AI tools into their writing, how these tools influence their learning autonomy, and what challenges they face in maintaining academic integrity. The qualitative method was considered appropriate because it aligns with the study's objective—to gain a deeper understanding of students' lived experiences and interpretations rather than measure variables statistically (Miles, Huberman, & Saldaña, 2019). The collected data were analyzed through thematic analysis following Braun and Clarke's (2021) framework to identify recurring themes related to AI-assisted writing practices and pedagogical implications for future English teachers.

RESULTS AND DISCUSSION

1. Students' Perceptions of AI Tools in Writing

The majority of students reported using AI tools such as ChatGPT, Grammarly, Gemini, and Copilot to assist their English writing. The main purposes included generating ideas, checking grammar, and improving vocabulary. This reflects students' tendency to use AI both as a learning aid and a productivity tool.

Evidence Responses:

"I use AI to help me check grammar, improve sentence structure, and get suggestions for better vocabulary when writing in English." (student 2)

"To get ideas, to learn from their grammar, to correct their writing, and to get the wrong grammar." (student 21)

"I use AI tools such as ChatGPT and Grammarly to help me generate ideas and improve sentence structure." (student 7)

"I use AI to help me find topics, make titles, and check my answers for assignments." (student 9)

"It makes my structure of sentence or paragraph more good, it looks like a professional writer." (student 20)

"AI is very useful as an assistant that gives instant feedback, but its effectiveness depends on using it critically." (student 12)

"AI is useful because it helps me be more confident in writing English." (student 9)

Almost all students expressed positive perceptions toward AI's usefulness. They emphasized that AI helped them become more confident, corrected mistakes, and improved the quality of their writing. However, a few acknowledged potential drawbacks such as laziness or overreliance. The findings revealed that most English Education students at UNIMUS perceived generative AI tools as *helpful companions* in the writing process rather than as threats to learning. Students reported that AI applications such as ChatGPT, Grammarly, and QuillBot supported them in generating ideas, improving grammatical accuracy, and enhancing vocabulary use. These results align with Teng (2024), who found that EFL learners viewed ChatGPT as a supportive partner that facilitates self-correction and language exploration. Similarly, studies by Purnama et al. (2024) and Syarifah & Fakhruddin (2024) from JELL confirmed that Indonesian students benefit from AI assistance, especially in overcoming writing anxiety and developing coherence in their essays.

2. The Role of AI in Developing Writing Autonomy

Another emerging theme was the role of AI tools in supporting and limiting writing autonomy. While students appreciated the instant feedback provided by Grammarly and ChatGPT, they admitted that such tools sometimes made them "too comfortable" and less motivated to check errors independently. A few respondents emphasized that AI helped them learn from corrections when used consciously, but when used passively, it led to "copy-and-paste" habits. This indicates that students' learning outcomes depend greatly on how they approach AI use as a learning resource or as a shortcut.

Evidence Responses:

"AI helps me learn, but I still try to write by myself." (student 4)

"It can hurt my independence if I rely on it too much. But if I ask why a correction was made, it actually deepens my learning process." (student 11)

"Using AI helps me improve my writing skills, but I try not to depend on it too much so I can still learn and write independently." (student 17)

"AI can influence a student to be lazy and make us dependent, but it can also make it easier for us to find what is still wrong." (student 14)

"AI really helps me in learning, so I know more and learn things more easily." (student 1)

"Using AI can both help and challenge my independence in writing. It helps me learn faster by showing my mistakes and explaining how to fix them. However, if I depend on AI too much, I might become less independent and rely on it instead of thinking by myself. So, I try to use AI as a guide, not as a replacement for my own learning." (student 6)

"It does affect my learning process because from there (sometimes) I can understand easy about sentences, and mostly AI put some examples after." (student 3)

"In my opinion, for my independence, I don't think AI has affected it as much as I find writing fun to learn." (student 17)

These responses demonstrate that most students exercise learning autonomy by consciously regulating their AI use balancing between seeking assistance and maintaining self-directed learning. Students' response perceive AI not only as a writing assistant but also as a supplementary learning resource that enhances classroom efficiency, engagement, and learner autonomy. AI supports independent learning, allowing students to practice outside the classroom while still valuing teacher feedback and human guidance. This finding supports Mekheimer (2025), who argued that AI-assisted feedback enhances revision quality only when learners actively engage with the suggestions. The results also highlight the importance of AI literacy, where students are guided to use these tools ethically and strategically. As Mahapatra (2024) pointed out, educators need to integrate AI critically into writing instruction to maintain balance between assistance and authenticity.

3. Pedagogical Implications for English Education

The qualitative data suggest that AI tools can be valuable learning aids if integrated thoughtfully into writing instruction. For pre-service English teachers, understanding how AI supports and limits learning is essential for future classroom practice. The findings underscore the need for teacher-training programs to include modules on *AI-assisted language learning* and *ethical digital literacy*. By doing so, institutions like UNIMUS can prepare graduates who are not only proficient in academic writing but also capable of guiding their future students to use AI responsibly.

Evidence Responses:

"AI helps me save time because students can check grammar or vocabulary first before submitting. It makes the learning process more efficient." (student 4)

"I think AI makes English class more interactive because we can practice writing anytime, not only in class." (student 7)

"With AI, I can learn independently, but teachers still need to guide how to use it correctly so we don't just copy." (student 14)

"AI helps me understand feedback better because I can ask AI to explain grammar rules or examples." (student 8)

"I can use AI to give examples and make writing lessons more interesting and updated." (student 1)

"Sometimes AI gives too perfect answers, so I need to remind my self to still think critically and make our own sentences." (student 2)

"AI tools make learning English more accessible, but educators must teach us digital ethics and how to evaluate information from AI." (students 5)

The findings show that students perceive generative AI tools as having strong pedagogical potential in English education, especially in improving writing instruction and promoting independent learning. Most participants highlighted how AI enhances classroom engagement, provides instant feedback, and supports self-directed learning when used responsibly. Overall, these responses indicate that generative AI can enhance pedagogical practices by promoting efficiency, engagement, and learner independence. However, the findings also suggest that teacher involvement remains vital in fostering responsible AI use.

This aligns with Erito (2023), who found that integrating AI in EFL classrooms positively impacts writing development and student motivation when guided by clear pedagogical frameworks. The results reinforce that AI should serve as a *complementary educational tool* that supports critical thinking, creativity, and ethical awareness among English Education students.

CONCLUSION

The findings from this study reveal that generative AI tools such as ChatGPT, Grammarly, and QuillBot have significantly influenced students' approaches to English writing and learning autonomy. Most participants demonstrated positive perceptions toward the usefulness of AI in improving their grammar accuracy, vocabulary range, and writing organization. Students reported that AI feedback helped them identify and correct errors, enhance fluency, and gain confidence in expressing ideas in English. This aligns with previous research emphasizing that AI-based assistance promotes self-efficacy and motivation in language learning (Erito, 2023; Purnama et al., 2024).

However, alongside these benefits, students also expressed concerns about overreliance and reduced independence. Many respondents consciously limited their use of AI, positioning it as a supportive guide rather than a replacement for critical thinking and self-editing. Their reflections indicated a developing sense of *learning autonomy*, where AI is used as a reflective tool to reinforce understanding rather than merely generate answers. This balance between assistance and autonomy reflects the pedagogical need for *AI literacy*—the ability to use AI responsibly, ethically, and critically in academic writing contexts.

Overall, the study concludes that integrating generative AI tools in English education holds substantial pedagogical potential when guided by reflective practice. Educators should emphasize not only the functional use of AI but also the cultivation of students' critical engagement, creativity, and independence. In doing so, AI can serve as a catalyst for more personalized and self-regulated learning experiences in higher education, aligning with the goals of digital transformation in language pedagogy.

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