



Artificial Intelligence (AI) Chatbot in EFL Writing: Exploring Students' Perspectives

Rohmatul Janah¹, Tusino^{*2}, Puspa Dewi³
{janahnah66@gmail.com¹, tusino@umpwr.ac.id^{*2}, puspawati@umpwr.ac.id³}

English Education Program, Universitas Muhammadiyah Purworejo, Indonesia¹²³.

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Abstract. This study aims to investigate students' perceptions of the usefulness of AI Chatbot (ChatGPT) in improving writing skills and identifying perceived weaknesses in writing classes. The study employed a qualitative case study method at Muhammadiyah University of Purworejo, using questionnaires and interviews with fourth-semester English education students in the 2024/2025 academic year. The results revealed that students generally had positive perceptions of AI Chatbots in enhancing their writing skills, especially in idea generation, structure organization, and confidence building. Questionnaire data showed high agreement percentages and mean scores, particularly on statements about the value of AI in expressing ideas and improving writing skills. However, interviews uncovered challenges such as generic and shallow responses, inaccurate or fabricated references, over-reliance that reduces critical thinking, informal language styles, and misinterpretation of prompts. These findings highlight both the benefits and limitations of AI Chatbots in academic writing and underline the need for critical AI literacy and human guidance in educational contexts.

Keywords: Artificial Intelligence, ChatGPT, Students' perspective

1. INTRODUCTION

Traditional education faces problems of class crowd, lack of individual attention to students, variations in speeds and styles of learning, and an up-to-date challenge with the fast development in technology and information. Compared to education in the past, in the current era education has developed more rapidly, especially in the field of technology. This development began to be seen when AI-powered chatbots emerged as a promising platform for overcoming several student problems in learning [1].

The change of the 2013 curriculum or commonly called kurtilas was changed to the kurikulum merdeka by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia in 2022 along with the rapid development of Artificial Intelligence (AI) [2]. AI technology includes learning that uses machine learning methods and natural language processing that can be used to learn, develop, and complete complex tasks individually. AI in the context of education can open up opportunities that are personalized so that the needs and learning styles of each student can be met [3].

One of the AI technologies that is widely used in education is Chatbot or language modeling because it is easier to use to obtain information that matches the user's natural language [4]. Chat Generative pre-trained Transformer (ChatGPT) is one of the chatbot platforms most frequently used by students compared to other applications [5]. ChatGPT was developed by the OpenAI company and was first released in November 2019 [6]. ChatGPT's function is not only focused on one specific function, thus opening up a potential for utilization in increasing efficiency, accuracy, and saving operational costs [7].

The students often face challenges in writing, such as lack of motivation, confidence, and academic pressure [5]-[7]. These difficulties often cause many students to hesitate before starting or completing writing assignments. In this case, self-efficacy plays an important role as a psychological factor that influences their belief in their abilities [8]-[10]. Students with high self-efficacy tend to be more confident and persistent in completing writing tasks. In contrast, low self-efficacy can lead to postponement or failure [9], [14], [15]. This factor also affects their mindset and attitude during the writing process. Therefore, self-efficacy is a crucial element in enhancing students' writing abilities.

Self-efficacy plays an important role in students' academic performance, motivation, and stress management. Research shows that high self-efficacy is associated with career adaptability, academic achievement, and career interest [16]. Students with high self-efficacy are likely to set higher goals and achieve better results [17], [18]. Students with high self-efficacy are more likely to use adaptive learning strategies, such as self-regulation. In contrast, low self-efficacy leads to decreased motivation and academic performance [15]-[17]. The importance of self-efficacy highlights its potential as a target for educational interventions to improve students' academic success and career development.

Therefore the artificial intelligence can be a tool for students to assist students in their learning will have a more positive effect [22]. AI provides data-based learning which can be adjusted to the needs of more interactive students [23]. In the English teaching and learning process, writing skills are the most difficult and complicated language skills to learn for almost students at every level of education. Writing is the most difficult skill for students to master because of vocabulary, grammar, and lack of written idea practice [21], [24], [25]. In this case, there are many AI used to help complete writing assignments such as ChatGPT and [elicit.org](https://www.elicit.org). stated that ChatGPT and AI research assistants can assist in the literature search process by reviewing and summarizing their conclusions [26]. The existence of this AI Chatbot can help and support students in terms of academic writing [27]. Several studies have explored the impact of AI in education. Every student certainly has a positive attitude towards AI especially in academic writing, appreciating the time-saving and personalized feedback it offers [28]. Similarly, highlighted the benefits of AI tools in creating flexible and interactive learning experiences [29], the efficiency and personalized feedback capabilities of ChatGPT [30], although there are still challenges in assessing the quality of information and accurate references [28]-[30]. It specifically focuses on English writing skills at Muhammadiyah University of Purworejo which has not been widely explored. Despite growing global research on the educational use of AI, especially ChatGPT, there remains a lack of context-specific studies in Indonesian higher education. The research question of this research: How do students perceive usefulness of AI Chatbot in writing class? What is the weakness of AI Chatbot in writing class?

2. METHOD

Research Design

In this research, the researcher used qualitative case study research. The research design is the set of procedures and methods used in collecting and analyzing problem in research [31]. In other words, research design is the way used to collect the data, analyze the data, and make a conclusion from the data which has been collected in order to give valid and reliable data. The qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem [32]. This research was held at Universitas Muhammadiyah Purworejo.

Participants of the Research

The research took the researcher took English education students semester 3 to be studied at Muhammadiyah University of Purworejo in the academic year of 2024/2025.

Data Source

The primary data sources were student responses obtained through questionnaires and interviews., respondents serve as the main source of data when using questionnaires [33]. The instruments used of questionnaire and interview of this research consisted of 15 number statements and 10 number to interview. This questionnaire was given to the students to know about their perception the role of artificial intelligence (AI) chatbots in improving the writing skills of English language students and interviews was given the students to know about students' perception the role of artificial intelligence (AI) chatbots in improving the writing skills of English language students.

Data Collection

Data collection is one of procedure in systematic research. The researcher prepared the research instruments (questionnaire and question of written interview). Then, the researcher asked the student to fill out a questionnaire that was already available through the Google Form application. Next, the researcher chooses 10 students english education from semester 3, students randomly as the sample to conduct a written interview through the Whatsapp. After that, the results obtained from filling out the questionnaires and written interviews were analyzed. Finally, the research results were being interpreted and conclusions were drawn from the data.

Data Analysis

The researcher used technique of analyzing data, after collecting data from the questionnaire, the data needed to be analyzed. The data were analyzed by using flow model by [34] model, consisting of data collection, data reduction (summarizing and selecting key points), data display (presented in narrative and table form), and drawing conclusions based on research questions.

3. FINDINGS

This study aims to investigate students' perceptions of the usefulness of AI Chatbot (ChatGPT) in improving writing skills and identifying perceived weaknesses in writing classes. The results of the study were obtained from two data sources: a questionnaire consisting of 12 items tailored to writing skills, and student interviews.

Questionnaire Research

Table 1. Questionnaire Statements Related to the Use of AI Chatbot

No	Statement	SD	D	A	SA	%A+SA	Mean
1	AI helps me express my ideas more easily in writing (<i>Saya merasa bantuan AI mempermudah saya dalam menuangkan ide ke dalam tulisan</i>)		2	14	9	92%	3.28
2	I can organize my writing more clearly with the help of AI (<i>Dengan AI, saya bisa mengembangkan tulisan saya menjadi lebih terstruktur</i>)		2	17	6	92%	3.16
3	AI helps me notice the weak points in my writing (<i>AI membantu saya melihat kelemahan dalam tulisan yang saya buat</i>)		5	14	6	80%	3.04
4	I've becoming more careful in choosing word and building sentences after using I (<i>Saya menjadi lebih teliti dalam memilih kata dan menyusun kalimat setelah menggunakan AI</i>)		6	13	6	76%	3.00
5	AI helps me improve the logic of my writing (<i>AI mempermudah saya dalam memperbaiki logika penulisan saya</i>)	1	4	15	5	80%	2.92
6	I feel more confident in writing when I receive feedback from AI (<i>Saya merasa lebih yakin untuk menulis karena adanya masukan dari AI</i>)		3	16	6	88%	3.12
7	AI has made me more aware of how I can improve my own writing (<i>AI membuat saya lebih kritis dalam mengevaluasi tulisan saya sendiri</i>)	1	3	17	4	84%	2.96
8	I now make more effort to revise and revine my writing after using AI tools (<i>Saya menjadi terbiasa untuk merevisi dan menyempurnakan tulisan saya setelah menggunakan AI</i>)		3	17	5	88%	3.08
9	I find it easier to understand proper writing structure with the help of AI (<i>Saya merasa terbantu untuk memahami struktur tulisan yang baik dan benar</i>)		4	15	6	84%	3.08
10	I can create better-connected paragraphs with the help of AI (<i>Saya lebih mudah menyusun paragraph yang saling berhubungan dengan bantuan AI</i>)		5	14	6	80%	3.04
11	Writing has become more enjoyable for me since I started using AI (<i>Saya merasa proses menulis menjadi lebih menyenangkan dengan adanya AI</i>)		4	15	6	84%	3.08
12	I believe AI is a valuable tool to improve students' writing skills (<i>Menurut saya, AI bisa menjadi alat yang sangat berguna dalam meningkatkan kemampuan menulis siswa</i>)		2	14	9	92%	3.28

Explanation of Questionnaire Research

From the data, the highest average is for items 1 and 20 (average = 3.28), indicating strong agreement that AI helps express ideas and is overall valuable. The lowest average is for item 7 (average = 2.92), indicating slightly lower confidence in the role of AI in improving writing logic.

Interview

To supplement the questionnaire, select students were asked in an in-depth interview to describe further their experiences in using AI Chatbots for Academic Writing. Common themes that emerged as limitations and challenges in the use of AI Chatbots within the writing context were articulated.

First, many students highlighted the issue of generic and shallow responses. Though ChatGPT was useful in idea generation, most of the time it lacked depth and specificity that academic writing usually demands. When asked “Can you explain what you mean by ‘too general’ or ‘lacking depth’?”. “Sometimes the explanations are too basic and lack detail, especially for essay writing, another student said. This proves that though AI is helpful in content creation, it does not fulfill the analytical standard requirements of content creation at higher education levels.

Second, a number of students raised concerns about inaccurate and unverifiable references generated by AI. ChatGPT sometimes generated journal titles or citations that appeared legitimate but could not be found in academic databases. One student noted, “When I asked for journal references, ChatGPT gave titles that did not exist.” Such instances can compromise the academic credibility of students’ work and highlight the importance of verifying all information generated by AI.

Another major concern was the risk of over-reliance, which some students felt led to a decrease in critical engagement with writing assignments. One interviewee said, “I found myself not analyzing the topic deeply enough when relying on ChatGPT.” This is in line with the idea that while AI can provide assistance, over-reliance can hinder students’ independent thinking and development of critical reasoning skills.

Additionally, students commented on the language style used by the AI, describing it as often too informal or conversational for academic assignments. As one student explained, “The words used are too casual for academic writing.” This suggests that while the AI can help structure sentences, its output often requires revision to meet formal academic standards.

Finally, some students reported misinterpretation of commands by the AI. Especially when the commands were complex, context-specific, or implied nuanced expectations, ChatGPT often misunderstood the assignment. One student shared, “ChatGPT didn’t really understand what my lecturer was asking, so the answers were off-topic.” This underscores the importance of clear prompt design and suggests that human oversight remains essential when using AI in academic settings.

In summary, while students generally acknowledged the benefits of AI Chatbots for writing, they also experienced significant challenges related to content quality, academic accuracy, and cognitive engagement. These findings reinforce the need for critical AI literacy and instructor guidance in integrating AI tools into writing pedagogy.

4. DISCUSSION

The results of the questionnaire indicated very favorable perceptions of AI Chatbots, especially ChatGPT, by students regarding their writing skills. The majority of participants in the study either agreed or strongly agreed with the statements about the usefulness of AI in expressing ideas and organization of writing, identifying weaknesses in logic and building structure, and attaining confidence in writing.

This falls under the Technology Acceptance Model (TAM) Perceived Usefulness construct which described users' beliefs that technology would be helpful in performing a task [35]. Respondents described the support by AI Chatbots in the cognitive and affective aspects of writing-applicable dimensions pertaining to writing structure, coherence, clarity, confidence, and motivation [8], [36], [37].

Other studies, such as show that AI devices offer personalized support to help students compose better writing [3]. It proves that feedback from the AI device ChatGPT increases student willingness to revise their work [29]. This was indicated by high agreement with related items on revision and refinement of writing. These students also indicated that writing has become more enjoyable. Therefore, it can be deduced that the use of AI tools will reduce writing anxiety to involve more engagement; hence, this fact is very important in an EFL context [38]-[40].

Though the results of the questionnaire expressed great perceived benefits of AI Chatbots toward the improvement of writing skills, qualitative data collected from student interviews brought forth some

major limitations that should be taken into consideration. These shortcomings provide an understanding of how students experience AI tools beyond surface-level utility, especially in academic writing.

General and Superficial Responses

One of the most frequently cited concerns was that ChatGPT tended to provide answers that were too general and superficial. While AI can help students get ideas started, it often falls short of the analytical depth and rigor required in university-level writing. This concern was expressed by students who felt that AI-generated explanations were too basic and lacked detail. For example: “Sometimes the explanations are too basic and lack detail, especially for essay writing.

This suggests that while AI can assist in the ideation process, it still lacks the cognitive depth needed to construct complex arguments or perform higher-order thinking tasks, such as evaluation and synthesis.

Inaccurate and Made-up References

Another great concern that emerged was regarding inaccurate and missing references. Several students noted experiencing fake citations that later could not be traced back to any publication but which bore a serious risk to academic credibility. When I ask for journal references, ChatGPT gives titles that do not exist.

This is a phenomenon, otherwise known as AI hallucinations of which the literature on AI is very conscious and clearly points out ChatGPT's limitations in academic research tasks. It goes further to reinforce the need to double-check references generated by AI and never treat AI as a reliable source of verified information.

Over-Reliance and Reduced Critical Thinking

A larger cognitive concern raised by students was the potential for over-reliance on AI, which some felt impacted their ability to think independently. One student shared: “I noticed that I did not analyze topics deeply when I relied on ChatGPT.”

This observation reverberates with fears that the passive application of AI may eventually erode the critical and reflective thinking of students. In writing, where the major ingredients are synthesis and evaluation—there has to be real intellectual engagement and thus learning.

Inappropriate Language Style for Academic Purposes

Some participants observed that the style produced by ChatGPT was generally too casual or informal for academic writing. Students indicated that though it was grammatically correct, at times it sounded like a blog post or conversational text rather than structured academic discourse. The words used are too casual for academic writing.

This suggests that students must still rewrite and adjust AI text to fit the formal standard of academic writing, most notably in its tone, terms, and style of argumentation.

Misinterpretation of Writing Prompts

Finally, some students found that ChatGPT often misunderstood the context or intent of writing prompts. Particularly when dealing with complex or culturally specific tasks, the AI failed to produce relevant responses: “ChatGPT didn’t really understand what my lecturer was asking, so the answers were off-topic.” This limitation highlights the importance of quick clarity and suggests that students should be trained to formulate appropriate instructions when interacting with AI. It also suggests that AI may not yet be able to understand nuanced educational expectations in local contexts.

5. CONCLUSION

Based on the results, students generally acknowledged the benefits of AI Chatbots for writing. The results of the questionnaire showed that students had very positive perceptions of AI Chatbots—especially ChatGPT—in improving their writing skills. All participants agreed or strongly agreed with statements related to the usefulness of AI in expressing ideas, organizing writing, identifying weaknesses, improving logic, building structure, and increasing confidence in writing. These findings reinforce the need for critical AI literacy and Instructor guidance in integrating AI tools into writing pedagogy. Meanwhile, qualitative data from student interviews revealed several recurring themes related to the limitations and challenges of using AI Chatbots in the writing context. These include the issue of generic

and shallow responses, inaccurate and unverifiable references, over-reliance that reduces critical engagement, inappropriate language style for academic purposes, and misinterpretation of commands. These findings offer valuable insights into how students experience AI tools beyond surface-level utility, particularly in the context of academic writing.

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