

Artificial Intelligence Assisted Feedback in EFL Writing: Student Perceptions of ChatGPT in an Indonesian Islamic University

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ABSTRACT

The growing presence of artificial intelligence in education has introduced new possibilities for providing feedback in academic writing. This study investigates students' perceptions of feedback generated by ChatGPT in an argumentative writing course in the English Language Education Program at Universitas Islam Negeri Mataram, Indonesia. The research aims to understand how students perceive the usefulness of ChatGPT feedback, identify the aspects of feedback they find most helpful, and examine the challenges they experience when using the tool during the writing revision process. The study employed a descriptive mixed-method approach involving thirty-five undergraduate students. Data were collected through a rubric-based writing assessment, a perception questionnaire, and semi-structured interviews. The quantitative data were analyzed using descriptive statistics, while qualitative responses were examined through thematic analysis. The findings indicate that students generally perceive ChatGPT feedback as useful in improving grammar accuracy, sentence clarity, and organization of ideas in their essays. At the same time, students reported that some suggestions required careful evaluation because they did not always align with the intended argument. The study suggests that ChatGPT can function as a supplementary feedback resource that supports students during the revision stage. When combined with instructor guidance, artificial intelligence tools may contribute to more interactive and reflective learning environments in academic writing courses within Islamic higher education.

Keywords: artificial intelligence in education; ChatGPT feedback; EFL writing; student perceptions; Islamic higher education

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INTRODUCTION

The rapid development of artificial intelligence (AI) technologies has significantly influenced teaching and learning practices across various educational contexts (Khurma et al., 2024). In recent years, artificial intelligence has been increasingly integrated into English language teaching, particularly in areas related to language learning support, feedback

provision, and writing development. Digital tools powered by artificial intelligence enable learners to receive immediate responses to their work, offering suggestions for improvement in grammar, vocabulary, and textual organization. As a result, these technologies have begun to reshape traditional approaches to language instruction and assessment, creating new opportunities for both teachers and learners in the classroom (Drugova et al., 2021; Zhang & Fang, 2022).

Among the emerging artificial intelligence tools used in education, ChatGPT has attracted growing attention for its ability to generate natural language responses and provide interactive feedback. Unlike earlier automated systems that primarily focused on surface-level corrections, ChatGPT can analyze written texts more comprehensively and offer suggestions related to coherence, argument development, and clarity of expression. Several studies have shown that generative artificial intelligence can assist learners in brainstorming ideas, revising drafts, and improving linguistic accuracy in academic writing tasks (Çobanoğulları, 2024). These capabilities have made ChatGPT an increasingly popular resource in writing classrooms where students require frequent feedback to refine their texts.

Feedback plays a crucial role in the development of writing skills. In language learning contexts, constructive feedback helps students identify weaknesses in their writing and guides them in improving the clarity, coherence, and persuasiveness of their arguments (Usman et al., 2022). Traditionally, feedback in writing courses has been provided by instructors through written comments or direct consultation. Although this form of feedback is often considered valuable and personalized, it can also be time-consuming for instructors, particularly in classes with a large number of students. Artificial intelligence tools, therefore, offer an alternative approach by providing rapid and consistent feedback that students can access during the writing process (Lobo, 2023).

Despite the increasing interest in artificial intelligence-assisted feedback, questions remain regarding how students perceive feedback generated by such technologies (Maylawati et al., 2025). Learners' perceptions play an important role in determining whether technological tools are effectively adopted in educational settings. If students perceive artificial intelligence feedback as helpful, clear, and trustworthy, they may be more willing to use it to revise and improve their writing. Conversely, if they view it as impersonal or unreliable, they may prefer feedback from human instructors. Understanding students' experiences and attitudes toward artificial intelligence feedback is therefore essential in evaluating its pedagogical value in language learning environments (Campos, 2025).

The issue of AI applications in education becomes particularly relevant in the context of Islamic higher education institutions, where language education contributes to the development of academic literacy and critical thinking among future educators and professionals. English language education study programs in Islamic universities aim to prepare students not only with linguistic competence but also with the ability to communicate ideas effectively in academic and professional contexts. As digital technology continues to expand in higher education, the integration of artificial intelligence tools into language learning environments has become increasingly visible (Muslimin, 2024). However, empirical research examining the use of artificial intelligence-assisted feedback in writing courses within Islamic higher education contexts remains limited.

The present study is situated in the English Language Education Study Program, commonly known as the Tadris Bahasa Inggris (TBI), at Universitas Islam Negeri Mataram in Indonesia. This program prepares future English teachers and places strong emphasis on academic writing competence as an essential component of teacher education. In writing courses, students are required to develop argumentative essays that demonstrate clear thesis statements, logical organization, and well-supported arguments. Within this learning environment, the introduction of artificial intelligence tools such as ChatGPT offers new possibilities for providing formative feedback that can assist students during the writing process.

While previous research on automated writing support has largely focused on the accuracy of automated essay scoring systems or the technical capabilities of artificial intelligence-based evaluation tools (Bong et al., 2021; Ramesh & Sanampudi, 2022), fewer studies have explored how students themselves perceive the feedback generated by generative artificial intelligence. Moreover, limited research has examined this issue within Islamic higher education settings, particularly in English teacher education programs where students are expected to develop both linguistic proficiency and pedagogical awareness.

In response to this gap, this study explores students' perceptions of ChatGPT-generated feedback in an argumentative writing course in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram. The study aims to understand how students interpret the feedback they receive from ChatGPT and how this feedback supports their writing revision process. By examining students' perspectives, this research seeks to provide insights into the opportunities and challenges of integrating artificial intelligence-based feedback into writing instruction within Islamic higher education contexts.

Therefore, this study addresses the following research questions:

1. How do students in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram perceive the usefulness of ChatGPT-generated feedback in improving their argumentative writing?
2. What aspects of ChatGPT-generated feedback do students find most helpful in revising their essays?
3. What challenges or limitations do students experience when using ChatGPT-generated feedback in the writing process?

LITERATURE REVIEW

Artificial Intelligence in English Language Teaching

The integration of artificial intelligence into education has gradually transformed the landscape of language learning and teaching. Artificial intelligence refers to computational systems designed to perform tasks that typically require human intelligence such as language processing, pattern recognition, and adaptive response generation. In the field of English language teaching, these systems are increasingly used to support learning activities, provide automated feedback, and facilitate interactive language practice.

Scholars have highlighted that artificial intelligence tools can enhance language learning by providing immediate and personalized responses to learners' input. According to Drugova et al. (2021), digital technologies supported by artificial intelligence create new learning environments in which students can receive adaptive feedback based on their individual performance. These technologies also allow instructors to manage learning more efficiently by supporting large classes and providing supplementary feedback beyond traditional classroom interaction. Similarly, Zhang and Fang (2022) emphasize that the integration of technology into language teaching can strengthen students' engagement and improve their learning outcomes when appropriately aligned with pedagogical objectives.

Within English language education, artificial intelligence tools are commonly used in areas such as grammar correction, pronunciation training, automated essay evaluation, and conversational practice. These technologies offer opportunities for learners to practice language skills in more interactive and flexible ways. However, the successful integration of artificial intelligence into language learning depends not only on the technical capabilities of the tools but also on how students and teachers perceive their usefulness and reliability. Learners' attitudes toward technological tools influence whether they adopt them as part of

their learning strategies. For this reason, understanding students' experiences with artificial intelligence tools is essential for evaluating their role in language education.

In higher education contexts, the presence of artificial intelligence is becoming increasingly visible as universities adopt digital platforms and learning technologies to support teaching and assessment. This transformation reflects broader changes in educational practice where technology mediated learning environments are becoming an integral part of academic instruction. In language learning programs, artificial intelligence tools have the potential to support students in developing essential skills such as academic writing, which often requires frequent feedback and revision.

ChatGPT as a Tool for Writing Feedback

One of the most recent developments in artificial intelligence based language technology is the emergence of generative language models that can produce coherent and contextually appropriate text. ChatGPT represents a new generation of language processing systems capable of generating explanations, answering questions, and providing detailed feedback on written texts. Unlike earlier automated systems that primarily focused on correcting grammatical errors, generative artificial intelligence models are able to examine multiple aspects of writing, including coherence, argument development, and clarity of expression.

In writing instruction, feedback is widely recognized as a crucial element in improving students' writing skills. Effective feedback guides learners to recognize weaknesses in their writing and provides suggestions for revision. Tan et al. (2025) notes that generative artificial intelligence tools can assist learners during the drafting and revision stages by offering explanations about sentence structure, vocabulary use, and paragraph organization. These features allow learners to interact with feedback in a more dynamic way compared with traditional correction methods.

Çobanoğulları (2024) further explains that generative artificial intelligence systems such as ChatGPT can function as supportive learning partners in language education. Through interactive dialogue, learners are able to request clarification, explore alternative expressions, and refine their ideas during the writing process. This interaction allows students to engage actively with their writing rather than passively receiving corrections. As a result, artificial intelligence-based feedback may encourage more reflective learning practices in writing courses.

Despite these potential advantages, scholars also emphasize that artificial intelligence generated feedback should be used carefully in educational settings. While such tools can provide immediate responses and suggestions, they may not fully capture contextual or rhetorical nuances that human instructors often recognize. For this reason, artificial intelligence feedback is often viewed as a complementary resource that supports rather than replaces human guidance in writing instruction.

Student Perceptions of Artificial Intelligence-Generated Feedback

Students' perceptions play a central role in determining the effectiveness of educational technologies. Even when technological tools offer advanced capabilities, their impact on learning depends largely on how users interpret and engage with them. In language education, learners' perceptions of feedback influence whether they accept suggestions, revise their texts, and develop improved writing strategies.

Research on technology-assisted learning has shown that students generally appreciate tools that provide clear and timely feedback. Campos (2025) reports that artificial intelligence-supported feedback systems can help learners become more aware of their writing strengths and weaknesses. When feedback is presented in a structured and understandable way, students are more likely to apply the suggestions in their revision process. This process supports the development of self-regulated learning strategies, where students take active responsibility for improving their writing.

However, perceptions of artificial intelligence-generated feedback are not always entirely positive. Some learners express concerns about the reliability and depth of automated responses. Tsai et al. (2024) argues that although artificial intelligence systems can generate consistent feedback, students sometimes question whether such feedback fully reflects the quality of their ideas or the creativity of their writing. In certain cases, learners may feel that automated comments lack the personal engagement that is often present in feedback from human instructors.

These differing perceptions highlight the importance of examining students' experiences with artificial intelligence tools in specific educational contexts. Understanding how learners interpret and respond to artificial intelligence-generated feedback can help educators determine how these technologies should be integrated into teaching practice. In writing courses, where feedback plays a particularly significant role, students' perceptions

provide valuable insights into the strengths and limitations of artificial intelligence-supported learning.

METHOD

Research Approach and Design

This study used a descriptive mixed-method approach to examine students' perceptions of feedback generated by ChatGPT in an argumentative writing course. The design combined qualitative data from students' experiences with quantitative data obtained from a rubric-based writing assessment (Creswell & Creswell, 2018). The study was conducted as a classroom case study in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram.

Students wrote argumentative essays and revised them after receiving feedback from ChatGPT. Their revised essays were then evaluated using an analytic rubric. This design allowed the study to explore how artificial intelligence feedback supported the writing revision process while also observing students' writing performance.

Participants

The participants were thirty-five undergraduate students enrolled in the Argumentative Writing course in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram. These students were in the fourth semester and had completed basic writing courses. To gain deeper insights into their experiences, twelve students were selected for follow up interviews using purposive sampling. The selection represented students with different writing scores and levels of engagement with ChatGPT feedback.

Writing Assessment Rubric

Students' essays were evaluated using an analytic rubric consisting of five criteria: thesis clarity, organization of ideas, supporting evidence, grammar accuracy, and critical thinking. Each criterion was scored on a scale from zero to twenty, with a maximum total score of one hundred. The rubric provided structured data to measure the quality of students' argumentative writing after the revision process.

Research Instruments

Four instruments were used in this study. First, an analytic writing rubric was used to assess students' essays. Second, a perception questionnaire consisting of fifteen statements was distributed to measure students' views about the usefulness of ChatGPT feedback. Third, semi-structured interviews were conducted to explore students' experiences in more depth. Fourth, students' essay drafts and revised versions were collected as supporting documents.

Data Collection

Data were collected during the argumentative writing course. Students first wrote an argumentative essay as their initial draft. They then used ChatGPT to obtain feedback on grammar, clarity, and organization before revising their essays. After revision, the instructor assessed the essays using the rubric. Students then completed the perception questionnaire, and selected participants joined follow up interviews to explain their experiences with ChatGPT feedback.

Data Analysis

Rubric scores and questionnaire responses were analyzed using descriptive statistics to identify general patterns in students' writing performance and perceptions. Interview transcripts were analyzed using thematic analysis. The researcher identified key statements, grouped them into codes, and developed themes related to students' views on the usefulness and limitations of ChatGPT feedback.

Ethical Considerations

Participants were informed about the purpose of the study and their participation was voluntary. Students' identities were kept confidential by using pseudonyms. All data were used only for research purposes and stored securely to ensure participants' privacy.

FINDINGS

This section presents the findings of the study based on rubric-based writing assessment, questionnaire responses, and interview data. The findings are organized according to the three research questions.

Students' Perceptions of the Usefulness of ChatGPT Feedback

The first research question explores how students perceive the usefulness of ChatGPT feedback in improving their argumentative writing. The results from the perception questionnaire (see Table 1) indicate that most students viewed ChatGPT as a helpful tool during the revision process.

Table 1. Students' perceptions of the usefulness of ChatGPT feedback

Statement	Agree or Strongly Agree (%)
ChatGPT helps identify grammar errors	91
ChatGPT improves sentence clarity	88
ChatGPT helps organize ideas	83
ChatGPT feedback is easy to understand	86
ChatGPT helps during revision	89

Table 1 presents the summary of students' responses. The questionnaire results show that students generally perceived ChatGPT as useful in improving the quality of their writing, particularly in identifying grammar errors and clarifying sentence structure. The rubric based writing scores also show relatively strong performance in grammar accuracy and thesis clarity.

Table 2. Mean scores of writing rubric components

Component	Mean Score
Thesis clarity	16.8
Organization	16.1
Supporting evidence	15.4
Grammar accuracy	17.2
Critical thinking	15.9

The data shown in Table 2 explains that the relatively high mean score in grammar accuracy suggests that the feedback provided by ChatGPT may have contributed to students' revision process. Interview responses further support this finding.

Participant A stated:

“I usually use ChatGPT to check my sentences. It helps me see grammar mistakes that I did not notice before.”

Participant B explained:

“When I asked ChatGPT about my paragraph, it suggested how to make my thesis clearer. That helped me revise my introduction.”

Participant C commented:

“ChatGPT helped me understand which sentences were not clear. After reading the suggestion I rewrote my sentences.”

Participant D shared:

“I think it is helpful especially when we are revising the draft because the feedback comes quickly.”

Participant E stated:

“It is useful for checking language problems before submitting the essay.”

These responses indicate that students perceived ChatGPT as a supportive tool for improving language accuracy and clarity in their writing.

Aspects of ChatGPT Feedback that Students Found Most Helpful

The second research question focuses on which aspects of ChatGPT feedback students found most helpful during the revision process. Interview analysis revealed three aspects that were frequently mentioned by participants. These include grammar correction, sentence clarity, and organization of ideas. Several students emphasized the role of ChatGPT in identifying grammar related issues.

Participant F explained:

“Grammar correction is the most helpful part because it shows which words or verb forms are incorrect.”

Participant G stated:

“I sometimes translate ideas directly from Indonesian. ChatGPT helps me fix the grammar so the sentence sounds more natural.”

Another frequently mentioned aspect concerns clarity of expression.

Participant H noted:

“Sometimes my sentences are too long. ChatGPT suggests shorter sentences and it makes the paragraph easier to understand.”

Participant I shared:

“It gives suggestions about how to write the sentence more clearly.”

Students also reported that ChatGPT helped them organize their arguments more effectively.

Participant J commented:

“When I asked about my paragraph structure, ChatGPT suggested how to arrange the supporting arguments.”

Participant K explained:

“It helped me improve the flow between sentences in the paragraph.”

These responses suggest that students found ChatGPT particularly helpful in improving language accuracy and structural clarity in their essays.

Challenges Experienced When Using ChatGPT Feedback

The third research question examines the challenges or limitations students experienced when using ChatGPT feedback. Although most students reported positive experiences, interview data reveal that students also recognized several limitations. One issue relates to the need to evaluate the feedback critically.

Participant L explained:

“Sometimes ChatGPT changes the sentence too much and the meaning becomes different.”

Participant M stated:

“I do not always accept the suggestion directly because sometimes it does not match my argument.”

Another limitation concerns the depth of feedback on argument development.

Participant N shared:

“For grammar it works well, but for developing arguments the feedback is still general.”

Participant O explained:

“I still prefer feedback from the lecturer when discussing the strength of my argument.”

Participant P commented:

“ChatGPT is useful for language checking but the lecturer understands the topic better.”

These responses indicate that students viewed ChatGPT as a useful supplementary tool rather than a replacement for instructor feedback.

Discussion

This study explored students' perceptions of feedback generated by ChatGPT in an argumentative writing course in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram. The findings reveal three important points. First, students generally perceived ChatGPT feedback as useful for improving the quality of their writing. Second, the aspects of feedback that students found most helpful were related to grammar correction, sentence clarity, and organization of ideas. Third, although students valued the support provided by ChatGPT, they still recognized several limitations, particularly in relation to the depth of feedback on argument development. These findings provide several insights into the role of artificial intelligence in supporting academic writing instruction within the context of Islamic higher education.

The first finding indicates that students generally perceived ChatGPT feedback as helpful in improving their argumentative essays (Khusniyah et al., 2026). The questionnaire results show a high level of agreement among students regarding the usefulness of the feedback in identifying language errors and clarifying sentence structure. This perception is also reflected in the rubric-based writing scores, which show relatively strong performance in grammar accuracy and thesis clarity after the revision process. These results support previous studies suggesting that artificial intelligence tools can function as effective support systems during the writing revision process. Xiao (2025) argues that generative artificial intelligence can assist learners in recognizing linguistic errors and improving the clarity of academic writing through immediate feedback. Similarly, Çobanoğulları (2024) explains that interactive artificial intelligence systems can help learners revise their drafts by providing suggestions related to sentence structure and language accuracy.

The usefulness of ChatGPT feedback observed in this study can also be explained through the theoretical perspective of formative feedback in writing instruction. Feedback plays a crucial role in helping learners recognize weaknesses in their texts and guiding them toward improvement. In traditional writing classrooms, instructors provide feedback through written comments or consultation sessions. However, such feedback often requires considerable time and effort, especially in classes with many students. Artificial intelligence tools, therefore, provide an additional layer of support by offering immediate responses that students can access repeatedly during the revision process. Tsai et al. (2024) emphasizes that artificial intelligence-assisted feedback can increase learners' opportunities to engage with revision because feedback becomes more accessible during the drafting stage. The findings of this study align with this perspective, as students reported using ChatGPT to check

grammar, clarify sentences, and refine their writing before submitting the final version of their essays.

The second finding concerns the specific aspects of feedback that students considered most helpful. The interview data reveal that grammar correction, sentence clarity, and organization of ideas were the most frequently mentioned benefits of ChatGPT feedback (Beltrán & Echitchi, 2022). These aspects correspond with the rubric components used to evaluate the students' essays, which also showed relatively high scores in grammar accuracy and thesis clarity. This relationship suggests that the feedback provided by ChatGPT may have supported students in revising language-related aspects of their writing.

This result is consistent with previous research on artificial intelligence-assisted writing support. Drugova et al. (2021) note that digital learning tools can provide structured feedback that helps students identify linguistic errors and improve textual organization. Zhang and Fang (2022) further explain that technology-integrated language learning environments allow learners to interact with feedback in a more dynamic way compared with traditional correction methods. In the context of academic writing, such interaction encourages learners to reflect on their writing and revise problematic sentences or paragraphs. The students in this study reported similar experiences, as they described how ChatGPT helped them identify unclear sentences and reorganize their arguments.

At the same time, the findings suggest that ChatGPT functioned primarily as a tool for improving language accuracy rather than a system that fully supports higher-level aspects of academic argumentation (Escalante et al., 2023). While students acknowledged the usefulness of ChatGPT in correcting grammar and improving clarity, they also indicated that the feedback was sometimes general when discussing the development of arguments. This observation highlights the continuing importance of instructor feedback in writing courses. Campos (2025) notes that although automated feedback systems can provide valuable linguistic guidance, human instructors still play an essential role in supporting deeper analysis and critical reasoning in academic writing.

The third finding concerns the challenges experienced by students when using ChatGPT feedback (Suntoro et al., 2024). Although students generally viewed the tool positively, they emphasized the need to evaluate the suggestions carefully. Some participants reported that certain suggestions altered the meaning of their original ideas, which required them to review the feedback critically before applying it. This result indicates that students

did not simply accept the feedback automatically but engaged in a reflective process when revising their essays.

This finding aligns with the broader discussion in educational technology research that artificial intelligence should be viewed as a complementary learning resource rather than a replacement for human instruction. Previous studies have suggested that learners need to develop critical digital literacy when using artificial intelligence tools in academic tasks. In this sense, students must evaluate the reliability and relevance of automated feedback before integrating it into their work. Tsai et al. (2024) highlights that the effectiveness of artificial intelligence-supported learning depends on learners' ability to interact critically with the technology. The students in this study demonstrated this awareness by recognizing both the advantages and limitations of ChatGPT feedback.

These findings also complement recent research examining the role of digital technology in English language education. Studies on technology integration in language learning environments have emphasized the importance of combining technological innovation with pedagogical guidance. Artificial intelligence tools can support learning processes, but their effectiveness depends on how they are integrated into instructional practices. Within teacher education programs, the use of artificial intelligence may also help future educators become familiar with emerging technologies that may influence language teaching in the future.

So, the findings suggest that ChatGPT can function as a valuable support tool in argumentative writing courses, particularly in assisting students with grammar accuracy, sentence clarity, and basic organization of ideas. However, the results also emphasize that artificial intelligence feedback should be combined with instructor guidance to address deeper aspects of academic argumentation and critical thinking. This balanced approach may allow educators to take advantage of technological innovation while maintaining the pedagogical strengths of human feedback in writing instruction.

Conclusion

This study examined students' perceptions of ChatGPT feedback in an argumentative writing course in the Tadris Bahasa Inggris Study Program at Universitas Islam Negeri Mataram. The findings indicate that students generally perceive ChatGPT as a useful tool during the writing revision process. The feedback provided by the system helped students identify grammatical errors, improve sentence clarity, and organize their ideas more

effectively. These aspects were also reflected in the rubric-based assessment results, which showed relatively strong performance in grammar accuracy and thesis clarity. At the same time, students emphasized that artificial intelligence feedback should be used critically because some suggestions may not fully reflect the intended meaning of their arguments. For this reason, instructor feedback remains important, particularly for supporting deeper argument development and critical reasoning in academic writing.

This study has several limitations. The research was conducted in a single writing course within one English teacher education program, and the number of participants was relatively limited. In addition, the study mainly focused on students' perceptions and writing performance after revision rather than examining long-term effects of artificial intelligence-assisted feedback.

Future research may expand the investigation by involving larger samples from different universities or by comparing multiple writing courses. Further studies may also examine how artificial intelligence feedback influences students' writing development over a longer period of time.

The findings have practical implications for writing instruction in higher education. Artificial intelligence tools such as ChatGPT can function as supplementary feedback resources that support students during the revision process. When integrated carefully with instructor guidance, these technologies may help create more interactive and reflective learning environments in academic writing courses.

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