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# Balancing support and autonomy: EFL students' cognitive engagement with ChatGPT in essay revision

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## ABSTRACT

*The integration of Artificial Intelligence (AI) into English as a Foreign Language (EFL) writing provides students with new ways to improve the quality of their academic writing. This study investigated how students interacted with ChatGPT feedback when revising academic essays. The essays used in this study were originally written by the participants for their Writing IV (Advanced Writing) course in the fourth semester. The essays represented different academic types, including argumentative, cause-effect, and persuasive essays. A qualitative case study design was employed involving three English Education students from different semesters who had previously completed Writing I, II, III, and IV courses, and selected through purposive sampling. The students accessed ChatGPT through their personal accounts using GPT-4o to obtain feedback. Data were collected through semi-structured interviews and documentation of essay drafts (before & after revision). The results showed that ChatGPT provided broad suggestions, specifically helping students improve grammar, vocabulary, content development, arguments, and sentence organization. However, some feedback was considered too formal, complex, or inappropriate for the students' intentions, so critical assessment was needed in selecting which suggestions to use. The effectiveness of using ChatGPT depended on the students' ability to interact critically with the AI-generated feedback.*

***Keywords:*** *ChatGPT feedback, EFL learners, revision strategies, cognitive engagement*

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## Introduction

In this era of rapid educational development, writing remains one of the major challenges faced by students learning English as a foreign language(Alamri et al., 2025). In Indonesia, this challenge becomes more complex due to language barriers and a lack of exposure to writing models that follow international standards (Toba et al., 2019). This consequently affects self-confidence and hinders the development of better writing skills. However, writing is a key component of academic success, as it serves as the primary medium for effectively expressing critical thinking (Stritch, 2025; Taye & Mengesha, 2024). Achieving high-quality academic writing requires not only a good understanding of complex linguistic features, but also the ability to organize ideas, construct arguments, and critically revise work (Fang, 2021). Thus, writing is not merely the production of grammatically correct sentences, but also a cognitive process that requires the integration of language proficiency with advanced thinking skills.

Providing constructive and personalized feedback is one of the most important things in improving writing skills (Banihashem et al., 2022). As emphasized by Banihashem et al. (2024) and Steiss et al. (2024), feedback helps students improve the clarity of their writing, motivates students, and provides a detailed understanding of the areas that need improvement. Zare et al. (2025) also mentioned that personalized feedback is better for improving students' critical thinking. Nevertheless, teacher feedback in writing classrooms often faces challenges such as limited time and large class sizes (Banihashem et al., 2024; Mehrabi Boshrabadi & Boud, 2025; Teng, 2024). These limitations result in feedback that is not detailed and lacks individualization. This gap highlights the potential of technology, including artificial intelligence, to provide timely, specific, and adaptive feedback tailored to the writer's skill level.

In response to these limitations, artificial intelligence (AI) such as ChatGPT has

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emerged as a promising alternative. In Indonesia, a study also showed that EFL students responded positively to AI Claude in helping to improve their writing (Qonita Harahap & Dewi, 2025). Significant advances in AI have enabled the development of automated writing assessment tools that can provide more detailed feedback while reducing teachers' workload, especially in large classes (Steiss et al., 2024). These tools, including ChatGPT, can offer personalized feedback tailored to individual preferences, correct grammatical and syntactic errors (Polakova & Ivenz, 2024). Han & Li (2024) note that direct feedback from ChatGPT can enhance the learning process by providing corrections and suggestions that students can integrate into their revisions. Further empirical studies indicate that the use of ChatGPT can enhance students' confidence, motivation, and engagement in the revision process (Teng, 2024; Wiboolyasarin et al., 2024). However, not all feedback from ChatGPT is easily accepted by students, with some students rejecting it because they consider it irrelevant, too general, or not in line with their expectations (Chen et al., 2025; Lin & Crosthwaite, 2024).

Although research on the use of ChatGPT in writing instruction is growing, most studies still focus on the final writing outcomes, such as improved scores or text quality (Mizumoto et al., 2024; Polakova & Ivenz, 2024), with few examining how students process, evaluate, and utilize ChatGPT feedback during revision. Local studies indicate that metacognitive strategies, which are an integral part of cognitive engagement, account for approximately 36% of the writing strategies employed by Indonesian EFL students (Nadhifah et al., 2023). This finding highlights the importance of self-regulation and reflection in writing processes. A comprehensive understanding of these processes is very important for developing sustainable writing skills, as the quality of revisions is not only influenced by feedback content provided by AI such as ChatGPT requires further research on how these suggestions are processed and adapted in writing instruction. Participants' ability to process and evaluate feedback is influenced by their level of writing proficiency, highlighting the critical role of cognitive engagement in learning processes (Yeung, 2025). To explore these dynamics, this study adopts Cognitive Engagement Theory (Fredricks et al., 2004) and integrates it with the Self-Regulated Learning (SRL) framework (Pintrich, 2000; Zimmerman, 2002). Cognitive Engagement Theory emphasizes the role of cognitive effort, strategic processing of information, and metacognitive awareness as key components of learning engagement.

In the context of EFL writing, cognitive engagement determines how effectively students can process new information, evaluate feedback, and integrate it into their writing. Meanwhile, SRL provides a perspective that enriches findings by highlighting the initial thought process, monitoring of results, and self-reflection that guide students in managing their own writing (Pintrich, 2000; Zimmerman, 2002). When applied to revision with ChatGPT, SRL framework suggests that students do more than simply accept suggestions; they interpret, evaluate, adapt, and selectively integrate feedback into their final text. In writing classes, this process is often supported by teachers through guided revision, where structured feedback and modeling of revision strategies are provided. This approach, grounded in instructional design principles such as sequencing, timely and constructive feedback to encourage reflection and help students engage with cognitive processes to critically evaluate their writing (Bouwer et al., 2024; Görtzen et al., 2025; Michel et al., 2025).

In Indonesia, research explaining the cognitive engagement of EFL students with the use of ChatGPT in the writing revision process is still very limited. Other external factors, such as varying levels of digital literacy and learning expectations in Indonesian society, may also differ from other countries. Based on this aim, the study addresses the following research questions: 1) How do Indonesian EFL students process and evaluate feedback from ChatGPT during the revision of their academic writing? 2) In what ways does cognitive engagement influence students' use of ChatGPT feedback in improving their writing? By answering these questions, this study aims to expose the factors and processes of students' cognitive engagement with AI feedback. These findings offer practical recommendations for educators, curriculum designers, and policymakers in

optimizing the use of AI in EFL writing instruction.

**Method**

This study used a qualitative case study approach (Creswell & Poth, 2018) to gain an in-depth understanding of how EFL students engaged with ChatGPT feedback during essay revision. This research focused on understanding how EFL students processed, evaluated, and integrated feedback generated by ChatGPT during revision, taking into account cognitive engagement aspects such as thinking strategies, decision-making, and metacognitive awareness. Cognitive Engagement Theory (Fredricks et al., 2004) was employed as a conceptual framework, exploring the role of cognitive effort, information processing strategies, and metacognitive awareness in understanding how AI interacts with writing processes.

Three students from the English Education program at Mulawarman University were purposively selected as participants based on their ability to provide meaningful insights into the use of ChatGPT for academic writing revision. The participants were students who had completed Writing I, II, III, and IV courses and had experience using ChatGPT feedback to improve the quality of their writing. The differing semester levels of the students was designed to capture diverse perspectives in this study. The purpose, scope, and procedures of the study were explained to the students. Each was provided with a written consent form outlining their rights, including voluntary participation, confidentiality, and the option to withdraw at any time. Only those who signed the consent form were included as participants. To maintain confidentiality, the participants were given pseudonyms: P1, P2, and P3.

This study used two main instruments: semi-structured interviews and documentation. The interviews were adapted from the Structured Interview for Self-Regulated Learning Strategies by Zimmerman & Martinez (1986), then combined with dimensions of cognitive engagement theory such as planning, monitoring, reflection, and problem-solving strategies. Sample questions included: "What is the first thing you do after receiving feedback from ChatGPT?" (planning) and "How do you monitor revisions to align with the feedback?" (monitoring). Each participant took part in one interview session lasting approximately 20–30 minutes, conducted over the phone to provide flexibility. The interviews were conducted in Indonesian to ensure fluency and comfort, then translated into English. To ensure readability while preserving the participants' intended meaning, the excerpts were presented with slight grammatical or wording adjustments for clarity.

The documentation instruments include the original draft of the essays, which were written by the participants for their writing IV (Advanced Writing) course. The essays represented different academic types, including argumentative, cause-effect, and persuasive essays. Documentation also included samples of feedback from ChatGPT, and the final revised versions. These documents are used to verify the students' statements in the interviews and provide additional information regarding the implementation of feedback and revision strategies.

A systematic process was implemented to manage, organize, and present the data. First, interview transcripts, original essay drafts, and ChatGPT feedback were carefully reviewed, and key points in the transcripts were marked using comments in Word to highlight information relevant to students' cognitive engagement and revision strategies. Next, these marked quotes were then compiled into a structured table in Word, with each column defined for codes, categories, and main themes. Then, each excerpt was linked to the corresponding section in the essay, as a systematic comparison between participants to ensure that all data points were correctly aligned for analysis.

Following the organization of the data, thematic analysis (Braun & Clarke, 2006) was conducted to identify patterns related to cognitive engagement. During the coding process, the dimensions derived from the Self-Regulated Learning (SRL) framework (Pintrich, 2000; Zimmerman, 2002) including planning, monitoring, reflection, and problem-solving strategies were analyzed within the guiding framework of Cognitive Engagement Theory (Fredricks et al., 2004) to develop recurring themes. Finally, the combination of interviews,

documentation, and audio recordings enables methodological triangulation to strengthen the validity of the findings and provide a more detailed explanation of students' cognitive engagement while processing ChatGPT feedback. In addition, member checking was carried out by returning the initial themes to participants for confirmation, which strengthened the credibility of the research results.

**Results and Discussion**

Based on an analysis of essay drafts (before and after revision), ChatGPT feedback, and in-depth interviews, this study investigated how students interacted with ChatGPT in the process of revising academic writing. These findings showed students were actively involved in monitoring, evaluating, and adjusting suggestions according to the context of the writing. For example, P1 rephrased "Instead of all of these positive aspects…" to "However, despite these advantages…" to maintain clarity while preserving intended meaning, P2 combined their own sentence with ChatGPT's suggestion to avoid changing the original message, and P3 corrected minor punctuation errors identified by ChatGPT. These examples illustrate how students used metacognitive strategies to regulate their revisions, ensuring both grammatical accuracy and clarity of ideas.

*Monitoring Feedback*

The interview results and document data showed that participants were actively involved in the process of monitoring ChatGPT feedback. Monitoring was an important initial stage for students to ensure that the mistakes they had made were corrected appropriately by ChatGPT. It was carried out consciously and systematically, with attention to sentence structure, punctuation, and cohesion markers before deciding whether the changes were appropriate. Thus, monitoring served as a regulatory step that kept students in control and prevented them from relying entirely on AI-generated text. Moreover, monitoring formed the initial foundation for student cognitive engagement, which was also important in subsequent stages such as reflection, evaluation, and elaboration that emerged in the next revision process.

> *"First, I usually read the revisions slowly, then I cross-check them to see if they are exactly what I want, and whether they make my writing easier to understand or more complicated."* (P1)

Tables 1–5 present representative examples of essay drafts and ChatGPT, illustrating specific adjustments made by students in response to ChatGPT's feedback.

These findings also show that students have the autonomy to decide which suggestions to implement, especially when AI feedback feels unnatural, overly formal, or incompatible with their writing style. P1 noted, "Not all feedback has to be followed; it still needs to be cross-checked and adjusted manually," while P2 and P3 described selectively combining or modifying suggestions to maintain readability and logical flow. These text excerpts, along with the revised drafts and ChatGPT feedback presented in the table, show that ChatGPT functions as a supporting tool rather than a replacement. It allows students to critically evaluate feedback, strengthen arguments, and improve coherence in their essays.

> *"The first step is, of course, to read the feedback. But I don't immediately make changes. I usually check first whether it fits or not. For example, if the meaning is changed, I prefer to keep my own version. So, I try to combine my version with ChatGPT's suggestions."* (P2)

> *"Once I get feedback from GPT, I usually reread my writing to see what needs to be improved. I go through my essay again to find the mistakes based on the feedback."* (P3)

Each participant demonstrated different individual monitoring strategies in the early stages of processing ChatGPT feedback. P1 checked whether the revisions suited their preferences and did not alter the clarity of the sentences. P2 focused on selectively filtering feedback, such as choosing suggestions that preserved the original meaning and combining ChatGPT's input with their own versions. P3 used feedback as a guide to identify and find errors in their writing. This indicates that monitoring functions as a metacognitive strategy through which participants actively

regulate their revision process, rather than passively adopting AI feedback.

**Table 1. Monitoring Feedback from Essay Revisions**

| No | Before Revision | ChatGPT Feedback | After Revision |
|---|---|---|---|
| **P1** | "Instead of all of these positive aspects, …" | Some sentences are wordy or grammatically off. For example: "Instead of all of these positive aspects, …" → better: "Despite these positive aspects, …". | "However, despite these advantages, …" |
| **P2** | "Handphone have evolved over the decades from previous item into no longer precious item again." | "Handphone have evolved" → should be "Handphones have evolved" (plural agreement). | "Handphone have evolved over the decades from a deluxe item that only a few people could afford into a basic need that everyone owns." |
| **P3** | "With a printer, college students. work" | You have a small grammar error: "With a printer, college students. work…" → remove the period. | "With a printer, college students work…" |

Analysis of drafts (before and after revision) and ChatGPT feedback served to strengthen the interview quotes and highlighted how students engaged in monitoring as an active part of their revision process. Table 1 showed that before participants improved their sentences with ChatGPT's suggestions, they closely reviewed the suggestions to ensure they were appropriate for their writing goals. For example, P1 accepted the suggestion "Instead of all of these positive aspects..." but rephrased it to "However, despite these advantages...", showing that monitoring was used to provide clarity while maintaining the intent of the writing. Similarly, P2 modified ChatGPT's suggestion into a more preferred version, indicating that they monitored not only grammatical accuracy but also meaning and style to maintain natural writing. In addition, P3 monitored their minor errors and made punctuation corrections to improve the readability of the text.

*Evaluating Feedback*

In the context of cognitive strategies, evaluation represents a critical ability for students to assess the usefulness and appropriateness of the feedback they receive. Unlike monitoring, evaluation involves a more meaningful judgment of whether the suggested revisions clarify meaning, maintain coherence, and align with the author's goals. Interview data showed that participants did not automatically apply ChatGPT feedback. Instead, they considered it carefully before making changes. Revisions were accepted when the suggestions clarified their ideas without distorting the meaning, but were rejected when the feedback was perceived as too formal, inconsistent with the original message, or inappropriate for the writing purpose. This evaluative attitude is illustrated in the following excerpts

> *"When I read it, it actually felt strange – like not natural and too complicated because it was too formal. So usually, I just skip that part."* (P1)
>
> *"If the meaning changes, I prefer to keep my own version. But often, I try to combine mine with the one suggested by ChatGPT".* (P2)
>
> *"Sometimes the wording feels too stiff. Even if it's grammatically correct, if it doesn't match my style, I change it myself."* (P3)

The excerpt above illustrates that students employed two main evaluative criteria when deciding whether to adopt ChatGPT's suggestions. First, P2 accepted feedback only when it did not alter the intended meaning of the sentence; if meaning was affected, they either retained their original version or synthesized it with the AI-generated suggestion. Second, P1 and P3 rejected revisions that were perceived as overly formal, rigid, or contextually inappropriate, even when grammatically accurate. These findings indicate

that students engaged in higher-order cognitive strategies during the evaluation process, critically assessing the usefulness of feedback with attention to communicative goals and alignment with their preferred writing style.

**Table 2. Evaluating Feedback from Essay Revisions**

| No | Before Revision | ChatGPT Feedback | After Revision |
|---|---|---|---|
| **P1** | "So, by mastering English will help to contribute…" | Some sentences are wordy or grammatically off. For example: "So, by mastering English will help to contribute…" → better: "Thus, mastering English contributes…". | "Thus, mastering English contributes…". |
| **P2** | "It is too bad if we use handphone too much." | "This habit can negatively affect our health and relationships." | "Using handphones too much is bad for our health and relationships." |
| **P3** | "I personally think that every college student should have their own printer …" | Remove "personally," rephrase to sound confident. | "I think every college student should have their own printer …" |

Table 2 further demonstrates how participants engaged in evaluation as a higher-order cognitive process. The data reveal that revisions were not accepted automatically but were filtered through key considerations such as accuracy of meaning and stylistic appropriateness. For instance, P1's revision ("So, by mastering English will help contribute..." → "Thus, mastering English contributes...") illustrates that the feedback was accepted because it clarified meaning and enhanced grammatical accuracy. In contrast, P2 modified ChatGPT's suggestion ("This habit can negatively affect our health and relationships") into a more personal construction to preserve naturalness and align with the author's original intention. Similarly, P3 engaged in selective evaluation by removing redundant words (e.g., "personally") while still retaining the intended emphasis of the sentence.

*Strategic Use of Feedback*

In addition to addressing grammar and sentence-level issues, participants also utilized ChatGPT feedback to enhance broader aspects of their writing. They reported drawing on the suggestions not merely for error correction but also for strengthening arguments, refining content, incorporating transitions, and reinforcing conclusions. ChatGPT supported students in reorganizing their ideas and improving the overall cohesion of their texts. The strategic use of feedback indicates how students use ChatGPT as a tool to develop their writing optimally. Students selectively accept suggestions for improving their arguments, flow, and sentence organization. This reflects students' cognitive engagement in utilizing feedback to produce quality revisions that enhance their writing strategies.

> *"I usually use ChatGPT to get topic ideas or key points that I can then develop into a paragraph or an essay."* (P1)

> *"If something feels unclear, I look at ChatGPT's suggestions because it often gives alternative sentences, so I can choose the one that fits better."* (P1)

These excerpts show that P1 uses feedback as a resource for developing more in-depth content. Participants actively use feedback to refine their arguments and improve the logical flow of their writing. ChatGPT functioned as a collaborative tool that supported students in improving writing skills.

> *"Sometimes I combine them. For example, if my sentence feels incomplete and ChatGPT suggests an additional phrase or word, I put them together so it flows better."* (P2)

> *"I'm not very good at making summaries. I usually include too many points, so my summary becomes too long. Then I ask ChatGPT to suggest which points aren't necessary, and after that I revise by removing them."* (P3)

Excerpts from P2 and P3 show that students not only received feedback from

ChatGPT but also strategically integrated it into their revision process. P2 mentioned that the suggestions served as complementary input, which could then be combined with personal sentences to create a smoother flow. Meanwhile, P3 used ChatGPT as a filter to overcome difficulties in writing conclusions. This participant had weaknesses in constructing conclusion paragraphs. Therefore, they relied on ChatGPT to help them select and refine repetitive points.

**Table 3. Strategic Engagement in Essay Revisions**

| No | Before Revision | ChatGPT Feedback | After Revision |
|---|---|---|---|
| **P1** | "The Edward Said part is strong but could be connected more directly to your main thesis." | Connect Edward Said's point explicitly to the argument about English as power and marginalization. | Edward Said's argument directly to the central thesis about English and linguistic imperialism. |
| **P2** | "Mostly teenager cannot to manage their time of using handphone." | Better: "Most teenagers cannot manage their time when using handphones." | "Most teenagers cannot manage their time when using handphones." |
| **P3** | "Owning a printer can even give extra income for students." | Make this more realistic by clarifying or adding an example. | "Owning a printer is not only about meeting immediate needs but can also potentially help students save costs…" |

The data in Table 3 illustrate how participants used ChatGPT feedback to improve different aspects of their drafts. For instance, revision P1 demonstrates the use of feedback to strengthen the connection between the main argument and its supporting explanation. Similarly, revision P2 shows how an incorrect sentence structure was revised into a more accurate form. In addition, revision P3 indicates that students refined unclear explanations to enhance readability and comprehension. Overall, both the interviews and the draft revisions suggest that participants treated ChatGPT feedback not as a substitute, but as a resource to support critical decision-making in their revision process.

*Learner Autonomy in the Revision Process*

The range of feedback provided by ChatGPT, including grammar and vocabulary corrections as well as suggestions for argument development, requires students to be selective in responding to the input. This diversity of feedback highlights students' authority to decide which suggestions are most appropriate to incorporate into their writing, since not all feedback necessarily aligns with their writing purposes.

Moreover, the breadth of suggestions encourages students to think more critically when assessing their mistakes, ranging from addressing minor errors to revising more complex aspects of their texts. Some participants reported using feedback to strengthen arguments, add supporting examples, or reorganize paragraphs. Thus, ChatGPT functions as a tool that broadens students' perspectives on their writing, while the responsibility for selecting, adapting, and applying revisions ultimately rests with the students themselves.

> *"Not all feedback has to be followed; it still needs to be cross-checked and adjusted manually."* (P1)
>
> *"If the meaning changes, I keep my own version, but sometimes I combine it with ChatGPT's suggestion."* (P2)
>
> *"ChatGPT's suggestions are sometimes too formal, so I prefer to keep my own version that feels more personal."* (P3)

The three excerpts above highlight that evaluating ChatGPT feedback is a critical process that requires higher-level thinking. P1 stated that all feedback was only temporary input that required human judgment. P1 realized that suggestions generated by AI might contain inconsistencies and might not align with the communicative purpose of the text. Meanwhile, P2 also explained that suggestions should not be accepted or rejected outright, but rather filtered to see whether they enriched the meaning of the writing.

P3 gave a different response by rejecting feedback that was considered too formal. This raised concerns that AI could compromise the authenticity of students' texts if they followed the suggestions uncritically. Therefore, it was important for students to maintain a sense of ownership and authority over their writing, positioning themselves as the final decision-makers regarding AI input.

The data in Table 4 illustrate how students expressed their autonomy when integrating ChatGPT feedback into their revisions.

**Table 4. Learner Autonomy in the Revision Process**

| No | Before Revision | ChatGPT Feedback | After Revision |
|---|---|---|---|
| **P1** | "…people Spoke…" | should be lowercase → "…people spoke…" | "…people spoke…" |
| **P2** | "Mostly teenager cannot to manage their time of using handphone." | Better: "Most teenagers cannot manage their time when using handphones." | "Most teenagers cannot manage their time when using handphones." |
| **P3** | "Printing shops, which are very expensive" | "Printing shops, which can be costly" | "Printing shops, which are very expensive" |

P1's correction of capitalization errors in the middle of sentences demonstrated careful attention to detail, and the revision was accepted because it aligned with their writing standards. Revision P2 showed that participants accepted AI suggestions for improvement when these clarified the intended meaning without altering the original message. Meanwhile, P3 retained their own words even when the AI suggested a more concise alternative. Although the AI provided a variety of options, participants still considered the specific needs of their writing.

*Recognizing the Limitations of ChatGPT Feedback*

Although ChatGPT provided useful suggestions, participants consistently reported that its feedback sometimes resulted in an unnatural tone, overly formal language, or a shift in meaning from what was intended. To address these limitations, students critically evaluated each suggestion rather than accepting it automatically, selecting only feedback that enhanced clarity or strengthened argumentation. In contexts where AI was used as a learning aid, it was essential to strike a balance between AI input and personal judgment. By being selective, students ensured that their writing reflected both accuracy and personal expression.

> *"When I read it, it feels unnatural and too formal, so I usually skip those parts."* (P1)

> *"Not all feedback needs to be followed; it still has to be cross-checked and adjusted manually."* (P1)

The excerpt revealed that students are cautious in accepting ChatGPT feedback. P1 noted that the suggestions were sometimes unnatural and overly formal. Consequently, P1 emphasized the need for active supervision when applying AI suggestions before integrating them into writing.

> *"Sometimes the wording gets too complicated, so I just choose a simpler version."* (P2)

> *"Sentences are often too long, so I shorten or revise them to make them clearer."* (P3)

P2 recognized the limitations of ChatGPT feedback, noting that AI-generated sentences were often too complex to understand. Although AI provided suggestions for improvement, not all of them improved clarity or matched the writer's intended expression. Similarly, P3 stressed the importance of maintaining independence when deciding whether to revise unclear sentences, in order to preserve the overall structure of the writing. These actions show that students regarded ChatGPT as a supportive tool and needed to identify which suggestions could reduce readability or alter meaning.

Table 5 highlights how students dealt with the limitations of ChatGPT feedback during their revisions. In suggestion P1, the participant included only the sections that preserved clarity and focus, even though more detailed explanations were recommended. P2 showed that some suggestions could feel overly

stiff or unnatural, so students needed to rely on their own judgment to maintain their writing style. Similarly, P3 adjusted repeated phrases in the conclusion, indicating that not all suggestions automatically accounted for context or coherence.

**Table 5. Recognizing the Limitations of ChatGPT feedback**

| No | Before Revision | ChatGPT Feedback | After Revision |
|---|---|---|---|
| **P1** | "For example, people can access EdX, BBC News, or Washington Post because of English." | "Some examples (like EdX, BBC News, Washington Post) could be explained more clearly (e.g., how English specifically helps access them)." | "For example, people can access BBC News and EdX." |
| **P2** | "It is too bad if someone cannot control handphone use, because it is really dangerous." | "Avoid casual phrasing like 'it is too bad' or 'really dangerous.' Replace with more formal wording." | "It is too bad if someone cannot control handphone use, because it is dangerous." |
| **P3** | "In conclusion, having a printer gives convenience, cost-effectiveness, and long-term benefits." | "Rephrase conclusion to avoid repeating the same phrases." | "In conclusion, owning a printer provides convenience, cost-effectiveness, and long-term benefits." |

**Discussion**

The findings of this study indicate that ChatGPT has a significant role on supporting students' revision processes in academic writing. ChatGPT's extensive feedback encourages students to think critically and strategically during the revision process, confirming Fang (2021) who argued that writing is not merely about producing grammatically correct sentences but also a cognitive process requiring higher-order thinking. In this study, students actively monitored, evaluated, and made strategic decisions to determine whether the suggestions are suitable for their purposes. This underscores the importance of critical thinking in writing, as emphasized by Stritch (2025) and Taye and Mengesha (2024) who described academic writing as a medium for expressing complex ideas. Instead of adopting feedback mechanically, students engaged in monitoring and evaluating their writing decisions. This reflects active learning strategies found in previous studies on engagement and self-regulation.

ChatGPT was also found to improve linguistic accuracy and enhance writing style. Several participants reported improvements in grammar, vocabulary, and sentence structure after using ChatGPT. This is consistent with the research conducted by Banihashem et al. (2024) which showed that constructive and personalized feedback motivates learners and improves clarity in their writing. These findings also align with Polakova and Ivenz (2024) who highlighted that ChatGPT can provide corrective feedback that enhances grammatical accuracy and supports revision. However, participants did not fully adopt the feedback. Several noted that they need to adjust or reject suggestions they perceived as overly formal or unnatural. This aligns with concerns raised by Chen et al. (2025) and Lin and Crosthwaite (2024) who argued that AI-generated feedback is not always contextually appropriate.

In addition to minor corrections, ChatGPT also provides broader suggestions for improving content development, organization, and argumentation. Participants reported that ChatGPT helped them identify unnecessary points, organize ideas, and improve the logical flow between paragraphs. These findings underscore the role of feedback in promoting reflective and strategic revision, as highlighted by Steiss et al. (2024) and Teng (2024). Although teacher feedback is often constrained by limited time and large class sizes (Mehrabi Boshrabadi & Boud, 2025; Teng, 2024), ChatGPT provided more immediate and individualized input, thereby complementing the teacher's role. Therefore, ChatGPT may help bridge the gap in

large EFL classrooms by giving students opportunities for deeper engagement with their drafts.

Overall, the findings of this study not only reinforce insights from previous research but also highlight the emerging role of ChatGPT in revising English as a foreign language (EFL) writing. As Nadhifah et al. (2023) showed, Indonesian students already rely heavily on metacognitive strategies during writing. This study further demonstrates how ChatGPT reinforces these strategies by encouraging students to monitor and evaluate their revisions. Participant reports indicate that ChatGPT's extensive feedback is valuable not only for addressing technical aspects such as grammar, vocabulary, and sentence accuracy but also for supporting improvements in argument structure and overall essay organization. This is in line with Bouwer et al. (2024) and Görtzen et al. (2025), who emphasized the role of guided revision. At the same time, participants emphasized the importance of using feedback selectively by monitoring and evaluating suggestions that were too formal or misaligned with the communicative purpose before applying them to their writing. The reflections of all participants suggest that although ChatGPT can reduce the cognitive load during revision, its effectiveness still depends largely on students' ability to interact with the tool strategically.

**Conclusion**

The findings of this study highlight that EFL students engaging with ChatGPT feedback demonstrated cognitive engagement through a stepwise process of monitoring, evaluation, and selective adaptation. Students exercised independence in deciding whether to adopt or reject AI suggestions, ensuring that revisions aligned with their writing goals and style preferences. These findings indicate that ChatGPT functions as a collaborative resource that supports idea generation, enhances linguistic accuracy, and improves coherence in academic writing. At the same time, this study underscores the importance of maintaining awareness of overreliance on AI, such as accepting suggestions without critical evaluation. A lack of critical engagement with AI feedback may hinder the development of independent writing skills.

From a pedagogical perspective, these findings suggest that educational institutions should take the initiative in equipping students with the knowledge and strategies needed to use artificial intelligence (AI) responsibly. This can be achieved through training sessions that raise awareness of both the potential and the limitations of AI, while also guiding students to view it as a tool that supports rather than replaces human judgment. Teachers can further integrate AI into classroom activities by providing live demonstrations on how to use ChatGPT for tasks such as grammar checking, vocabulary enhancement, or sentence restructuring. When combined with teacher feedback, this approach encourages students to think critically and to recognize the complementary roles of AI-generated revisions and human evaluation.

However, this study has several limitations. The findings are based on a relatively small number of participants, which may restrict the generalizability of the results to a broader EFL population. In addition, the primary data were drawn from self-reported experiences and written documents, which may not fully capture the long-term impact of AI use on students' writing development. Future research could address these limitations by involving larger and more diverse samples, employing longitudinal designs to examine sustained effects, and incorporating performance-based writing assessment.

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