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The Use of Artificial Intelligence as a Personalized Correction Tool to Improve Students' Writing Skill

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A B S T R A C T

The rapid advancement of digital technologies has significantly reshaped educational practices in language learning environments. Among these innovations, artificial intelligence (AI) has gained increasing attention as a potential tool to enhance instructional effectiveness. Prior studies have demonstrated that AI-generated feedback can improve writing accuracy and learner motivation. However, empirical research has predominantly focused on higher education, with evidence from secondary school contexts within structured classroom interventions remains limited. This gap highlights the need to examine how AI can be pedagogically integrated to support younger learners' writing development in EFL settings. Addressing this gap, this study investigated the implementation of ChatGPT as a personalized correction tool to enhance the writing skills of ninth-grade students at SMP Negeri 1 Kubutambahan. The study employed a Classroom Action Research design conducted in two cycles involving 31 students. Data were collected through a pre-test, post-tests, supported by questionnaires and semi-structured interviews. The results revealed significant improvement in students' writing performance, with mean scores increasing from 68 in the pre-test to 79.7 in Cycle I and 82.8 in Cycle II. Students showed progress in grammatical accuracy, vocabulary use, and textual coherence. Additionally, students reported increasingly positive perceptions of ChatGPT. Overall, the findings indicate that AI-assisted feedback can effectively enhance writing achievement while fostering learner autonomy and self-directed learning.

Keywords: *AI, ChatGPT, Personalized Correction, Writing Skill, Perception*

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INTRODUCTION

The rapid development of digital technology has reshaped educational practices, particularly in the field of English language learning. Modern classrooms increasingly utilize digital tools that offer flexible, accessible, and interactive learning opportunities. Prior research has shown that technology-supported learning environments allow students to learn beyond classroom boundaries such as the use of mobile-assisted language learning tools that enable learners to review language structures anytime and anywhere (Dewi et al., 2020). Among the various technological innovations, artificial intelligence (AI) has emerged as one of the most transformative forces. Recent AI advancements have introduced systems capability to generate human-like responses, supporting interactive learning, and providing real-time feedback. ChatGPT is one such tool that has gained significant attention for its potential to enhance personalized learning and foster student engagement in language acquisition (Cha et al., 2024; Nazeer et al., 2024). However, the effectiveness of the AI tools in educational settings is not determined solely by their technical capabilities. Factors such as technological readiness and innovation play a crucial role in shaping how these tools are adopted and utilized in learning contexts. In this regard, learners' prior technological experiences influence their readiness and competence to embrace new learning strategies (Mahendrayana & Dewi, 2021).

Therefore, the success of ChatGPT implementation is contingent upon its innovative integration into existing pedagogical practices to address students' learning needs.

In English language education, writing is widely recognized as one of the most challenging skills to master. Hyland (2003) notes that writing requires not only linguistic knowledge but also higher-order cognitive abilities, such as organizing ideas logically, ensuring coherence, and expressing thoughts clearly. Many EFL students struggle with vocabulary use, sentence construction, and grammar accuracy, making writing tasks particularly challenging. On the other hand, teachers must manage large volumes of student writing, which often limits the time available for providing individualized and timely feedback for their students (Kormos, 2012). This issue is also evident in Indonesian classrooms, where students frequently encounter difficulties in understanding English grammar and producing accurate sentences due to limited exposure to English in daily communication (Kusuma et al., 2024). Although digital tools have been introduced to make grammar learning more engaging, these approaches are not always sufficient to address students' individualized writing needs.

A similar challenge was observed at SMP Negeri 1 Kubutambahan, where preliminary observations revealed low writing performance among ninth graders. The data showed that 54,8% of students scored below the Minimum Completion Criteria (KKTP) of 70. According to the English teacher, it was due to students' low motivation and delayed feedback caused by large class sizes that contributed to this issue. In addition, technology such as ChatGPT has been acknowledged but the usage was not optimal yet. According to the students, their use tended to focus solely on obtaining quick answers, generating images, and other irrelevant activities rather than improving their writing skills. This situation presents an opportunity to redirect the ChatGPT utilization into a more meaningful writing assistant that is able of supporting English language learning specifically writing skills by allowing students to receive instant and personalized feedback. Feedback is a crucial component in the development of writing skills as it connects learners' existing performance with their opportunities for improvement. Ellis (2009) classifies corrective feedback into two types such as explicit feedback, which involves direct correction of errors, and implicit feedback which provides indirect guidance through the identification of errors. In this study, ChatGPT acts as a form of explicit corrective feedback by serving as a personalized correction tool that directly identifies errors and provides tailored suggestions to support students' writing improvement (Rahman, 2024).

The integration of AI in writing instruction has shown promising outcomes in improving writing quality. Studies have found that AI-generated feedback supports error correction, enhances vocabulary use, and strengthens textual coherence (Bai & Wei, 2024; Masoudi, 2024). Additionally, AI-support can boost learners' self-efficacy, motivation and autonomy which is an important factor associated with writing achievement, by offering continuous, personalized feedback (Dewi, 2016; Indrayani et al., 2025; Nguyen & Nguyen, 2025; Teng, 2024). When students can independently revise their writing with guidance from AI, they develop greater autonomy and confidence in their learning. Similarly, Santosa & Yasa (2025) noted that student satisfaction in EFL learning is shaped by factors such as interaction quality, instructor support, flexibility, and learning environment. These factors are reinforced through the integration of ChatGPT in writing instruction as it offers flexible feedback access and encourages a more engaging environment for independent writing improvement. This growing emphasis on learner autonomy aligns closely with the principles of Kurikulum Merdeka, Indonesia's national curriculum, which prioritizes student-centered learning, inquiry, and self-directed study (Kemendikbud., 2024; Yunitasari et al., 2023). Within this framework, ChatGPT can serve as a tool that supports independent exploration of language, allowing students to experiment with linguistic structures, refine their ideas, and revise their drafts through continuous AI-generated feedback. Research suggests that AI-supported learning environments can strengthen students' problem-solving abilities and deepen their engagement with academic tasks. Thus, integrating ChatGPT into writing instruction not only

enhances writing proficiency but also supports the broader educational goals of fostering independence and lifelong learning.

Beyond assessing writing improvement, this study also explores students' perceptions of ChatGPT in writing instruction. Learners' perceptions play a crucial role in determining their motivation, acceptance, and engagement with new technologies (Teng, 2024). Foundational theory from Bruner's Constructivist Model emphasizes perception as an active and interpretative process shaped by prior experiences, expectations, and social contexts. In educational settings, Vygotsky (1978) further emphasized that learners construct meaning through social and cultural interactions including engagement with technological tools. The theory also emphasizes the role of mediational tools in supporting cognitive development. In this context, ChatGPT functions as digital scaffolds by providing timely assistance during writing tasks. Through corrective feedback, it helps students to operate within their Zone of Proximal Development (ZPD). Similarly, Piaget (1950) Constructivist Learning Theory views learning as an active process shaped through interaction with the environment. In this case, AI aligns with this perspective by allowing students to experiment with language, receive immediate feedback, and revise their work iteratively. This interactive and exploratory learning process promotes deeper cognitive engagement and leads to improved writing outcomes (Naznin et al., 2025). More recent studies extend these theories to digital learning environments that indicate the students' perceptions significantly influence the effectiveness of AI-based platforms (Teng, 2024). Fathimatuzahro & Rizkiyah (2025) found that students who receive AI-supported feedback demonstrate higher confidence in their writing as they are able to revise their work iteratively with immediate assistance. Therefore, understanding their perspectives is essential for optimizing ChatGPT integration into EFL writing instruction as positive perceptions can encourage good learning outcomes.

Although previous studies have highlighted the effectiveness of AI-generated feedback in improving writing accuracy and learner motivation (Bai & Wei, 2024; Masoudi, 2024; Teng, 2024), most of these studies were conducted in higher education settings and mostly relied on experimental and survey-based designs. Limited research has explored the pedagogical integration of AI within secondary school classrooms using iterative instructional cycles. Moreover, fewer studies have investigated the role of AI such as ChatGPT as a personalized corrective feedback tool embedded within structured classroom action research design. Therefore, these remains a need to examine how AI can be implemented ethically and pedagogically in real classroom contexts to support writing development among younger EFL learners.

Nevertheless, while AI can offer such benefits, it may lack a nuanced understanding of tone and rhetorical effectiveness compared to human teachers (Algaraady & Mahyoob, 2023; Steiss et al., 2024). There is also a concern that highlights reliance on AI could reduce students' critical thinking and self-editing skills (Baidoo-Anu & Owusu Ansah, 2023; Dergaa et al., 2023). On the other hand, Kusuma et al (2025) noticed that students were conscious of these ethical concerns surrounding AI and developed approaches to uphold academic integrity while benefiting from its use. To address these issues, it is suggested to implement AI as a complementary tool rather than a full substitute for teachers. While existing research has examined AI-based writing tools in higher education contexts, studies involving younger learners particularly secondary school students remain limited (Imran & Almusharraf, 2023; Naznin et al., 2025). This gap highlights the need to investigate how ChatGPT can be implemented effectively in secondary school settings, especially within structured instructional frameworks. To address this need and similar situation found at SMP Negeri 1 Kubutambahan, this study employs Classroom Action Research (CAR) design that enables educators to identify challenges, implement targeted interventions, and assess their impact. The school has also provided support by offering technical assistance and aligning the intervention correction within two-cycles implementation during the school's remedial period, which provides uninterrupted time for targeted writing improvement. Short-term remedial interventions have been shown to significantly boost writing proficiency (Shtayeh, 2023), making this timing appropriate for the intervention.

Given these conditions, this study functioned ChatGPT not merely as a technological supplement but as a targeted pedagogical intervention aimed to address students' writing challenges within a structured classroom environment. Therefore, this study outlines the following objectives: (1) Improve student's writing skills through the integration of ChatGPT's personalized correction for ninth-grade students at SMP Negeri 1 Kubutambahan. (2) Explore student's perceptions of ChatGPT as a personalized correction tool in improving writing skills of ninth-grade students at SMP Negeri 1 Kubutambahan.

The findings are expected to provide practical insights and references for English teachers on utilizing AI particularly ChatGPT in learning and how to integrate it in structured classroom settings for writing instructions.

METHOD

Research Design

This study employed a Classroom Action Research (CAR) design to improve students' writing skills through the integration of ChatGPT as a personalized correction tool to provide feedback on students' texts. CAR was chosen as it provides a systematic framework for identifying classroom learning problems, implementing targeted actions, observing their impact, and reflecting on the results across iterative cycles. This design ensured that the integration of ChatGPT was carried out in a structured and evaluative way.

The Classroom Action Research followed the four stages proposed by Kemmis and McTaggart (1988) such as planning, acting, observing, and reflecting.

Planning

In this stage, a pre-test was administered to assess students' initial writing proficiency. Based on the identified needs, lesson plans and guidelines were developed to integrate ChatGPT as a personalized correction tool in writing instruction.

Acting

The intervention was implemented by providing students with brief training on how to use ChatGPT for writing feedback. Students then completed writing tasks and revised their drafts using AI-generated corrections under the supervision of the teacher and researcher.

Observing

Students' writing progress, engagement, and interaction with AI feedback were monitored through classroom observation and analysis of writing outputs.

Reflecting

A post-test, questionnaires, and semi-structured interviews were conducted to evaluate students' improvement and perceptions. The findings were analyzed to determine adjustments for the next cycle

These stages form a spiral cycle in which reflection on one cycle informs improvements in the subsequent cycle. This cyclical process ensured continuous refinement of instructional strategies.

Setting and Participants

The research took place at SMP Negeri 1 Kubutambahan during the 2024/2025 academic year, involving 31 ninth-grade students from Class IX-A. All students participated in the teaching activities, writing tasks, and intervention processes. In addition, the English teacher of the class is involved collaboratively as an observer and co-researcher.

Data Collection

The data in this study were collected through writing tests, a questionnaire, and semi-structured interviews. The writing tests assessed students' performance in terms of content, organization, vocabulary, grammar, and mechanics. It was administered in Pre-test, Post-test I, and Post-test II. The questionnaire was administered after each cycle to understand students' perceptions of using ChatGPT as a writing support tool. Furthermore, the interviews conducted to provide deeper insights into students' perception, particularly regarding the usefulness of ChatGPT and challenges encountered during the learning process.

The research procedures were carried out consistently across both cycles. The pre-test was conducted by collecting students' text before the action was carried out to determine

students' initial writing abilities. The results were analyzed to plan for Cycle 1. In Cycle I, the researcher prepared the lesson plan, writing prompts, and guidelines for using ChatGPT as a personalized correction tool. During writing practice, students drafted their recount texts and consulted with ChatGPT for corrections, while the researcher observed overall activities, students' engagement and writing difficulties. At the end of the cycle, post-test I was conducted to determine improvement and reflected for any adjustment. Reflections from Cycle 1 informed improvements or refinements for Cycle 2, where instructional strategies were refined based on the results of the writing tests, classroom observations, questionnaire responses, and interview findings.

Data Analysis

The data analysis included scoring the writing tests based on a standardized rubric to compare results across cycles to identify improvements. The rubric was adapted from the Cambridge English Writing Assessment Criteria which can be seen in Table 1 below.

Table 1. Writing Test Rubric

No	Aspect	Description	Score Range
1.	Grammar	Correctness of sentence structure, tense usage, punctuation, capitalization, and spelling.	1-5
2.	Coherence	Logical organization and smooth flow of ideas; appropriate use of conjunctions and transitions.	1-5
3.	Vocabulary	Range, appropriateness, and precision of word choices in conveying meaning.	1-5
4.	Content Relevance	Relevance of content to the prompt, completeness of ideas, and clarity of meaning.	1-5
5.	Overall Organization	Clear structure with introduction, body, and conclusion appropriately ordered and connected.	1-5

From the table above, it can be seen that the rubric assesses five aspects in writing which includes grammar accuracy, coherence, vocabulary, content relevance, and overall organization. Each aspect was scored from range 1-5 (Poor – Excellent). Then the results were calculated as follow:

Maximum score = 25

Minimum score = 5

Final score = $\frac{score\ obtained}{maximum\ score}$ x 100

Questionnaire data were analyzed descriptively to summarize students' perceptions toward the use of ChatGPT. The result was classified into categories in which the predetermined thresholds were applied based on the mean score as follow:

Mean score > 3.50: classifies as Positive Perception

Mean score < 3.50: classified as Negative Perception

To further explore students' perception, interview data were analysed thematically following Braun and Clarke's (2006) steps, which involved familiarization, coding, developing themes, reviewing and defining themes, and writing up the findings. This structured procedure enhances the credibility of the findings and enables the researcher to identify meaningful patterns that reflect students' perceptions toward ChatGPT utilization as a personalized correction tool.

The intervention is considered successful if students' writing performance shows measurable improvement based on gain scores derived from the pre-test and post-test results. In addition, the Classroom Action Research is considered successful when at least 80% of the participating students achieve the Minimum Completion Criteria (KKTP) of 70, as outlined by Alias (2023). These benchmarks ensure that both individual progress and class-wide attainment were met.

FINDINGS AND DISCUSSION

Pre-test Results

Prior to the implementation of ChatGPT in classroom instruction, preliminary observation was conducted and the results indicated that students encountered difficulties in writing English texts. According to the pre-test, it is shown that students' overall writing performance was below the expected standard, with an average score of 68 which is lower than the school's Minimum Completion Criteria (KKTP) of 70. Out of 31 students, 17 (54.8%) did not reach the minimum score, while only 14 students (45%) met the benchmark. Classroom observations revealed the students' frequent expression of the factor affecting this problem was confusion where they did not understand their mistakes in writing English texts which leads to frustration and decreased motivation. The teacher also reported that students' low motivation was partly caused by the lack of personalized feedback as teachers find it difficult to provide it optimally due to time consuming factors in large class sizes. Preliminary interviews further showed that although students were familiar with AI tools, for instance ChatGPT, their use was largely limited to seeking instant answers, generating images, or other irrelevant tasks without meaningful learning engagement. Consequently, students tended to use ChatGPT as a shortcut and caused minimal learning as they did not actively participate in the writing process. It indicates that students' prior interaction with ChatGPT was predominantly passive and product-oriented rather than process-oriented.

Based on these initial situations, a gap was identified between students' access to advanced AI tools and their ability to utilize them meaningfully for learning purposes. Therefore, the intervention aimed to address the classroom problem by transforming ChatGPT into a personalized correction tool for students to receive feedback and revise their text accordingly. The students were firstly required to submit their own writing, receive feedback from the tools, analyse the feedback provided, and revise their work independently. This approach reflects the principle of learner autonomy which emphasizes reflection, self-monitoring, and improvement through feedback. It is important to highlight that ChatGPT functioned not as a replacement for students' writing, but as an assistance tool to support the learning process. Its role was intentionally framed as a personalized correction assistant rather than a text generator. Students were trained to use several provided prompts to train ChatGPT for feedback assistance. The sample prompt can be seen in Figure 1 below.

Main Prompt:

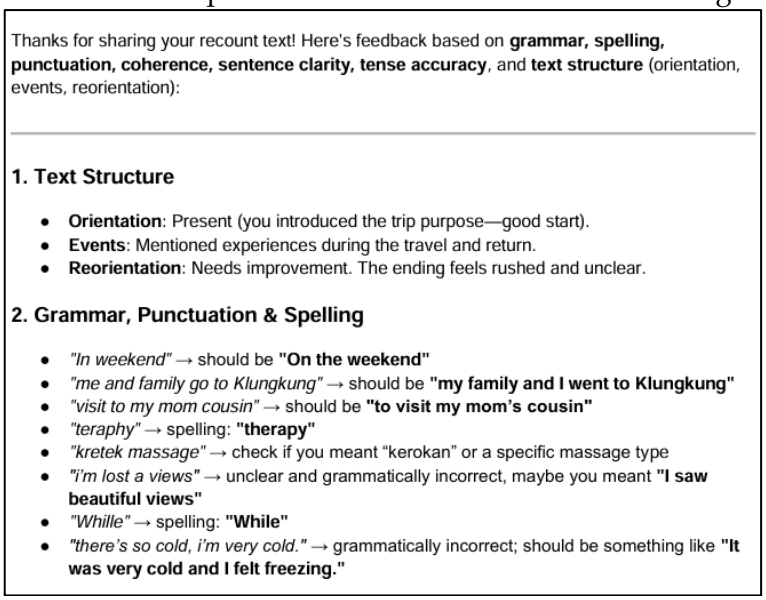
- "Please review my recount text for grammar, spelling, punctuation, coherence, vocabulary, sentence clarity, tense accuracy, and text structure (orientation, events, reorientation). Provide suggestions for improvement in each aspect. Don't add the full text revised version"

Figure 1. Sample Prompt

Before asking for feedback assistance, students were required to produce their own drafts. Then, they can use the prompt to receive feedback from ChatGPT on grammar, vocabulary, sentence structure, and text organization. The sample prompt seen in Figure 1 is used as the main prompt sample that students can use to receive overall and detailed feedback without receiving the AI full revised version. As the students were asked to always put the last sentence in their prompt so they cannot cheat during the writing process. All the prompts and feedbacks were copied to Word document and submitted in Google drive in their own folder, so researcher can see their progress and maintain the AI essential in education. This pedagogical design ensured that students were able to maintain ownership of their writing while using AI as a scaffolding mechanism to identify errors and make improvements independently. Moreover, the use of ChatGPT enabled students to receive immediate, individualized, and adaptive feedback based on the student's unique error which is often difficult to achieve in conventional classrooms due to time and workload constraints.

Cycle I Results

The findings of Cycle I revealed the high level of engagement and students' adaptation to quickly adapt and use ChatGPT as a writing support tool. Most students were able to utilize ChatGPT effectively to receive feedback and revise their recount text which contributed to improvements in grammar accuracy, vocabulary use, and overall text organization. The sample of ChatGPT's feedback in response to students' text was shown in Figure 2.



Thanks for sharing your recount text! Here's feedback based on **grammar, spelling, punctuation, coherence, sentence clarity, tense accuracy**, and **text structure** (orientation, events, reorientation):

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1. Text Structure

- **Orientation**: Present (you introduced the trip purpose—good start).
- **Events**: Mentioned experiences during the travel and return.
- **Reorientation**: Needs improvement. The ending feels rushed and unclear.

2. Grammar, Punctuation & Spelling

- *"In weekend"* → should be **"On the weekend"**
- *"me and family go to Klungkung"* → should be **"my family and I went to Klungkung"**
- *"visit to my mom cousin"* → should be **"to visit my mom's cousin"**
- *"teraphy"* → spelling: **"therapy"**
- *"kretek massage"* → check if you meant "kerokan" or a specific massage type
- *"i'm lost a views"* → unclear and grammatically incorrect, maybe you meant **"I saw beautiful views"**
- *"Whille"* → spelling: **"While"**
- *"there's so cold, i'm very cold."* → grammatically incorrect; should be something like **"It was very cold and I felt freezing."**

Figure 2. Sample of ChatGPT's Feedback on Student's Text

It can be seen that the response or feedback given by ChatGPT was very detailed and based on students' specific errors. The students got immediate feedback from the tools by the time they submit the prompt and text. By receiving the feedback, students can recognize and understand their mistakes with explanations and suggestions that make it easier and effective in the revision process. This finding aligns with Bruner's constructivist perspective which emphasizes active engagement, self-reflection, and learning through interaction. In this context, ChatGPT functioned as a digital tutor that guided students to recognize their mistakes, understand explanations, and apply corrections autonomously.

Although the overall writing quality was seen to be improved resulting from the optimal revision process. It was observed that full writing stages as proposed by Hyland (2003) were missed by some students. Some students skipped the brainstorming stage and directly produced full text drafts without making the plan or framework first. It is resulting in limited idea elaboration compared to those who followed the planning and full writing process. Minor technical issues related to internet connectivity were also noted although these did not significantly affect the quality of feedback received or students' writing outcomes. The post-test results demonstrated improvement in students' writing with the mean score increasing from 68 in pre-test to 79.7 in post-test I and all students achieving the minimum completion criteria. Despite this progress, the problem was found in idea development and elaboration indicating a need for emphasis on pre-writing strategies particularly brainstorming and drafting. Furthermore, the findings were analysed and reflected for refinement in the next cycle.

Cycle II Results

The findings of Cycle II indicated more improvement in students' writing performance compared to the previous cycle. Students demonstrated higher levels of engagement in brainstorming and idea planning where they interacted more actively with ChatGPT during the writing process. Their texts showed clearer structure, greater grammar accuracy, and improved elaboration. The comparison between students' drafts and final texts revealed noticeable progress as most revisions maintained the students' original writing style while improving linguistic accuracy and coherence which is shown in Table 2.

Table 2. Sample of Student's Draft and Final Text Comparison

Table of Comparisons

Draft	True Friendship In a village there are three beautiful women named Filza, Khanza, and Vanya. They have been friends since childhood, they really like nature, they also often climb mountains together, but among them Vanya is the one who likes to climb mountains the most. They also like to go to the beach, they will take the time to go on vacation to the beach and climb mountains together. They cannot be separated, even their parents are surprised because they must always be together, they have been together since childhood.
Final	The Unbreakable Bond In a village, there lived three beautiful women named Filza, Khanza, and Vanya. They had been friends since childhood and really love nature. They often climb mountains together, although among them, Vanya is the one who likes climbing the most. In addition, they often vacation together, whether at the beach or in the mountains. Their friendship is so close that even their parents are sometimes surprised because the three of them have always been together since childhood and are difficult to separate

It can be noticed that there were fewer errors found in students' final text. The revisions indicated that students used the feedback effectively as their final texts remained consistent with their original writing style while showing clear refinement. The post-test results showed further improvement in the mean score increasing from 79.7 in post-test I to 82.8 in post-test II with 100% of students achieving the targeted score.

In conclusion, the implementation of ChatGPT as a personalized correction tool significantly improved students' writing skills. Quantitative results from the writing tests showed steady progress across the CAR cycles. It can be seen from the data presented in table 3.

Table 3. Students' Writing Test Results

	Pre-Test	Post-Test 1	Post-Test 2
Total Students	31	31	31
Mean Score	68	79.7	82.8
Minimum Score	52	72	72
Maximum Score	80	88	92

The mean score increased from 68 in the pre-test to 79.7 in the Cycle I post-test, and then to 82.8 in the Cycle II post-test. Moreover, the proportion of students meeting the KKTP increased sharply from 45% in the pre-test to 100%. The gain score between the pre-test and Cycle I post-test was 12 points, while an additional gain of 3 points was recorded in Cycle II. These improvements demonstrate that the students not only became more accurate in their writing but also developed stronger organization, grammar, sentence structure, and overall writing quality supporting findings by Bai & Wei (2024) and Masoudi (2024) regarding AI-assisted feedback in relation with students' confidence where this factor increased as they able to know their specific errors from the detailed explanations provided.

Classroom observations across both cycles indicated high student engagement and rapid adaptation in using ChatGPT for revision. In the early stage of Cycle I, most students skipped prewriting activities and produced texts with limited elaboration. However, they were already able to use ChatGPT effectively to improve grammar, vocabulary, and clarity. In Cycle II, when prewriting stages were emphasized, students' text elaboration became better and richer in elaboration. Their interaction with ChatGPT evolved from passive error correction to active engagement in the revision process. This finding supports Teng (2024) and Nguyen & Nguyen (2025) who emphasize the motivational role of AI in facilitating efficient and meaningful revision. It also aligns with Fathimatuzahro & Rizkiyah (2025) who reported increased confidence in students' writing through iterative AI-supported feedback.

These findings are consistent with Vygotsky's Sociocultural Theory which emphasizes the role of mediating tools in cognitive development (Vygotsky, 1978). In this study, ChatGPT served as a digital mediational tool that facilitated students' learning through continuous

interaction with feedback. This process reflects scaffolding within their Zone of Proximal Development (ZPD) as students were able to complete tasks that they previously found difficult and become easier with the assistance of the AI tools where they gradually shifted from dependent revision to more autonomous writing practices. This is how the tools work as mediational tool that encouraged revision process and gradually enhance their writing skills as they able to understand their error better and apply the suggestion given in their writing independently.

Furthermore, the improvement in students' motivation is supported by Indrayani et al (2025) who found that AI integration enhances learning motivation through personalized feedback and increased learner autonomy. Similarly, Santosa & Yasa (2025) argue that students' satisfaction in EFL learning is influenced by interaction quality, instructional support, flexibility, and learning environment. In this study, ChatGPT addressed these dimensions by providing flexible access to feedback, supporting teacher facilitation, and creating a more engaging learning atmosphere.

Students' Perception Results

Students' perception collected through questionnaires and interviews further reinforced these findings. The overall mean perception score increased from 4.05 in Cycle I to 4.28 in Cycle II which indicated consistently positive perceptions toward ChatGPT intervention in the writing instruction. It can be seen from Table 4 below.

Table 4. Questionnaire Results

No	Aspect	Items	Cycle 1 Avg.	Cycle 2 Avg.	Change	Interpretation
1.	Usefulness	1	4.26	4.55	+0.29	Positive
		2	4.29	4.42	+0.13	
2.	Ease of Use	3	3.87	4.13	+0.26	Positive
		4	3.55	3.90	+0.35	
3.	Motivation	5	3.97	4.13	+0.16	Positive
		6	4.39	4.52	+0.13	
		7	4.29	4.32	+0.03	
4.	Intention to Use	8	4.32	4.42	+0.1	Positive
		9	3.94	4.39	+0.45	
		10	3.68	4.06	+0.38	
Average			4.05	4.28		Positive Perception

It can be seen that students responded positively to the AI tool for its usefulness, ease of use, motivation, and intention to use. The increase in overall perception scores in Cycle 2 reflects students' growing confidence and comfort in using ChatGPT for learning. These results of increasing motivation and positive perception aligned with Indrayani et al (2025) who reported that the integration of AI can improve students' learning motivation. It is also evident that the quality of interaction between students and the AI affect their satisfaction in learning (Santosa & Yasa, 2025). Through continuous interaction with AI-generated feedback, students formed more positive attitudes toward learning technologies and gradually shifted their expectations and perceptions. This positive shift was strongly associated with their positive perceptions toward ChatGPT usage as a safe learning partner and environment.

Moreover, interview data provided deeper and more nuanced insights which were systematically analysed using thematic analysis. The analysis showed six major themes related to the implementation of ChatGPT as a personalized correction tool in English writing instruction such as accessibility, preferable choice, safe learning space, challenges & limitation, writing skills improvement, and long-term motivation. These themes reflect both cognitive and affective dimensions of students' perceptions when interacting with ChatGPT during the writing process. Together, they illustrate how students perceive the benefits and constraints of AI-assisted feedback in supporting their learning specifically in writing. The structure and interconnection among these themes were presented in the thematic map shown in Figure 3 below.

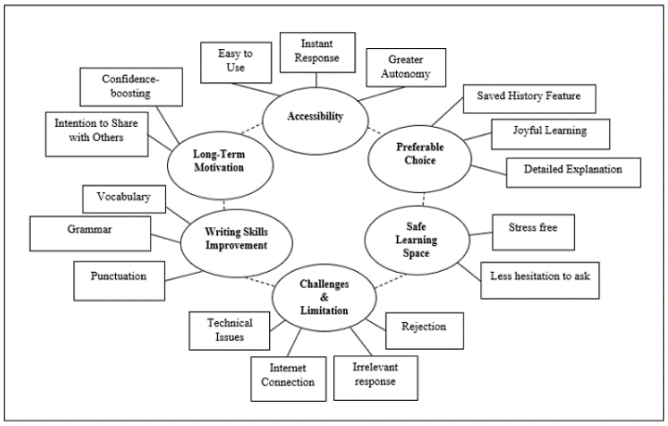

Figure 3. Thematic Map Demonstrating Perceptions Toward ChatGPT Usage

Overall, these themes indicated that students perceived ChatGPT as a technological tool and learning partner that supported their writing process cognitively, affectively, and motivationally. The findings suggest that ChatGPT facilitated learner autonomy, reduced anxiety, and encouraged active engagement in revision, which aligns with sociocultural and constructivist learning theories (Bruner, 1957; Piaget, 1950; Vygotsky, 1978). At the same time, several technical and content-related challenges were identified that highlighted the importance of pedagogical guidance and digital literacy in AI-assisted learning environments.

Students perceive ChatGPT as a highly accessible learning tool. Most students emphasized its instant response, ease of use, and clear explanations which enabled them to immediately identify mistakes and revise their writing independently.

> *"It's very useful because in ChatGPT we can immediately receive a solution so we know where our mistake is and can correct it directly" (S6)*

This indicated that accessibility played a key role in supporting students' self-regulated learning and autonomy. The teacher also confirmed the benefits that students became more independent and no longer relied solely on teacher feedback.

> *"Students can work more independently because they don't always wait for me to check everything one by one. The tool helps them quickly identify what needs to be improved" (T1).*

This finding aligns with Vygotsky's Sociocultural Theory, where learning occurs through mediating tools that support learners within their Zone of Proximal Development (ZPD). In this context, ChatGPT functioned as a digital mediational tool that provided scaffolding through real-time feedback and enabled students to perform writing tasks that they previously struggled with. As students became more familiar with the tool, accessibility gradually led to preference. Many students began to view ChatGPT as a preferable source of feedback compared to traditional teacher explanations. They highlighted the clarity, detailed responses, and especially the saved history feature which allowed them to revisit explanations at any time.

> *"I like ChatGPT more because if explained by teacher, I might forget what already been told, but ChatGPT can save history so we can re-read it whenever we want" (S5)*

These perceptions align with Bruner's Constructivist Model of Perception which views perception as an active process that is shaped by experience and interaction. Through repeated engagement with AI feedback, students developed more positive expectations toward learning technologies and gradually shifted their view of ChatGPT from a shortcut tool to a meaningful learning assistant. This sense of preference was closely connected to students' perception of ChatGPT as a safe learning space. Students frequently reported feeling more comfortable and less anxious when interacting with ChatGPT compared to asking with a teacher directly in class.

> *"Sometimes it's more afraid and nervous to ask the teacher, but I can directly ask ChatGPT anything without hesitation" (S6).*

This emotionally safe environment reduced fear of judgement and encouraged experimentation which is central to Bruner's Constructivist Model of Perception. Here, the students felt more comfortable with the tools and expressed the less afraid when using the tool. It showed that ChatGPT integration could reduce anxiety level of the students by providing benefits and safe learning space. When learners feel psychologically secure, they are more willing to take risks, make mistakes, and engage in deeper cognitive processing. Similar to findings by Dewi (2016), students expressed increased self-efficacy where they believed they could improve, and this belief strengthened their motivation and engagement. The teacher also confirmed that ChatGPT contributed to a "stress-free" writing atmosphere, enabling students to become more independent while still allowing the teacher to monitor and guide their progress.

However, alongside these positive experiences, students also reported several challenges and limitations. Technical issues such as unstable internet connections and slow loading were commonly mentioned. Content-related problems were also identified particularly when ChatGPT produced irrelevant responses or rejected certain inputs. While minor technical issues were reported, they did not significantly affect students' motivation. Ethical considerations also emerged as students became more aware of academic integrity and were guided to use ChatGPT for feedback rather than fully generate text which is consistent with Kusuma et al (2024) Moreover, they also perceived ChatGPT as highly useful but acknowledged that it could not replace the teacher. Instead, it functioned as a complementary tool. This aligns with Steiss et al (2024) who argue that AI should enhance rather than replace human feedback. These findings indicate that while ChatGPT functions as an effective learning scaffold, it still requires teacher supervision and digital literacy training. From a sociocultural perspective, this highlights that mediation through tools is most effective when accompanied by guided instruction and critical awareness.

Despite these limitations, students consistently reported noticeable improvement in their writing skills. They perceived ChatGPT was helpful in identifying grammatical errors, improving vocabulary, and correcting punctuation.

> *"Usually, I just submit my text hoping my grammar is correct, but here I can ask whether the grammar is correct or not" (S6).*

This finding reflects Piaget's Constructivist Learning Theory which emphasized knowledge construction through interaction, assimilation, and accommodation (Piaget, 1950). The use of ChatGPT encountered students to experiment with language, receive feedback, and revise iteratively. This exploratory learning process fostered deeper cognitive engagement and supported gradual improvement in writing skills (Naznin et al., 2025).

Over time, these improvements in skill and confidence contributed to sustained motivation. Most students expressed strong intentions to continue using ChatGPT and even recommended it to their peers. This indicates a shift in students' mindset from writing anxiety to writing confidence and engagement. In line with self-efficacy concepts and social learning principles, increased confidence and autonomy fostered higher motivation and positive learning attitudes (Dewi, 2016; Vygotsky, 1978). Students no longer viewed writing as a stressful task, but as an interactive and manageable learning process supported by meaningful feedback.

Taken together, these interconnected themes demonstrate that ChatGPT could improve students' writing performance and transform their learning experience. The tool functioned as a digital scaffold, a safe interactional space, and a motivational support system that encouraged autonomy, reflection, and sustained engagement. These findings confirm that when AI is integrated ethically and pedagogically, it aligns strongly with sociocultural and constructivist learning theories that can effectively support both cognitive and affective dimensions of EFL writing development.

The findings indicate that the integration of ChatGPT successfully met the study's achievement indicators. Students demonstrated significant improvement in writing scores, reached the minimum competency standard, developed more reflective writing behaviours, and expressed positive perceptions toward using AI for learning. The results show that when

used ethically and within a guided framework, AI tools can support both the cognitive and affective dimensions of language learning. This outcome aligns with the principles of the Kurikulum Merdeka, which promotes student-centred, technology-supported, and autonomous learning. The success of this Classroom Action Research demonstrates that AI tools such as ChatGPT can effectively complement traditional instruction and enhance writing skills in EFL classroom contexts.

Despite the positive findings, several limitations were acknowledged. The study involved a relatively small sample of 31 students from a single classroom which could not be generalized as the Classroom Action Research design itself. The intervention was conducted within short-period timing during a remedial period. Therefore, the long-term sustainability of writing improvement cannot be fully determined. In addition, although ethical guidelines were implemented, students' dependence on AI feedback remains a potential concern. Continuous supervision and digital literacy training are necessary to ensure that AI functions as a scaffold rather than a substitute for critical thinking. These limitations provide direction for future research.

CONCLUSIONS

In conclusion, this study concludes that the integration of ChatGPT as a personalized correction tool in structured classroom setting effectively improved students' writing skills. This improvement was demonstrated by the significant increase in students' average writing scores from 68 in the pre-test to 79.7 in Cycle I and 82.8 in Cycle II. Moreover, all students successfully met the Minimum Completion Criteria (KKTP) of 70 with achievement indicators reaching the targeted benchmark of 80%. Alongside a predominantly positive perceptions toward the use of ChatGPT in the writing process. Students perceived ChatGPT as a useful and clear tool for identifying errors, improving grammatical accuracy, enriching vocabulary, and supporting the revision process. In addition, the use of ChatGPT was reported to increase students' motivation, confidence, greater autonomy, reduced anxiety, and encouraged active engagement in the writing process. Theoretically, the findings reinforce sociocultural and constructivist perspectives by demonstrating AI function as a mediational scaffold within students' Zone of Proximal Development. Through continuous interaction with feedback, students engaged in active revision and knowledge construction. Practically, this study highlights the potential of AI to complement traditional feedback mechanisms where individualized correction is often limited. Additionally, teacher is recommended to implement ChatGPT with clear instructional guidelines, structured prompts sample, and ongoing supervision to ensure ethical use, academic integrity, and maintain students' authorship. Nevertheless, as this study employed Classroom Action Research (CAR) design which is conducted in a specific classroom context with relatively small sample and short intervention period, the findings are context dependent and cannot be generalized broadly. Therefore, future research is recommended to involve larger samples, apply different text types with experimental design or other research deigns, and explore the long-term effect in various educational settings.

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