



Students' Perspectives on the Role of AI Chatbots in Enhancing Vocabulary and Grammar in EFL Writing

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Abstract

This qualitative study investigates students' perspectives on the role of AI chatbots, particularly ChatGPT, in supporting vocabulary development and grammatical accuracy in English as a Foreign Language (EFL) writing. Data were collected from ten Management Study Program students at Universitas Widya Gama Mahakam Samarinda through interviews, classroom observations, and documentation, and were analyzed using an interactive qualitative model involving data reduction, data display, and conclusion drawing. The findings indicate that students use AI chatbots to obtain immediate grammar feedback, explore vocabulary alternatives, rephrase sentences, and request explanations. Students generally perceived AI as accessible and non-judgmental, which supported confidence and independent writing practice. However, the findings also reveal risks of over-reliance and instances of feedback that was contextually or academically inappropriate. Therefore, the educational value of AI chatbots depends on students' critical evaluation of AI-generated suggestions rather than passive acceptance. Because the study involved a small, context-specific sample and did not measure longitudinal language gains, the findings should be interpreted as evidence of students' perceptions and learning practices rather than proof of long-term proficiency improvement.

Keywords: Perspectives, AI Chatbots, Vocabulary, Grammar, Writing

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1. Introduction

The integration of Artificial Intelligence (AI) in language education has gained significant momentum over the past few decades, revolutionizing traditional teaching methodologies and enhancing learning experiences. The evolution of AI in this field began in the 1960s and 1970s with early language learning software, such as PLATO (Programmed Logic for Automatic Teaching Operations), which provided interactive language drills (Gonzalez, 2018). In the following decades, advancements in natural language processing (NLP) paved the way for more sophisticated language learning tools, allowing for the



development of grammar checking and vocabulary exercises (Liu, M., & Huang, 2020). Currently, trends in AI have been propelled by machine learning algorithms and deep learning, facilitating the emergence of AI-powered applications and chatbots that assist in language learning. Recent innovations include tools like Duolingo's chatbot feature, which offers conversational practice, and voice recognition technologies that enhance pronunciation assessment through devices like Google Assistant and Amazon Alexa. (Kukulska-Hulme, 2020)

AI applications have transformed language education by enabling personalized learning, providing instant feedback, facilitating conversational practice, and aiding in content creation. Personalized learning allows AI to adapt educational materials to meet individual student needs and proficiency levels, while automated assessment tools offer immediate feedback on grammar and vocabulary usage, enabling learners to correct mistakes in real time (Hsu, 2020). Additionally, AI chatbots simulate real-life conversations, giving students a low-pressure environment to practice their speaking and listening skills. One of the key advantages of AI in language education is its accessibility; AI applications provide round-the-clock access to language resources, allowing students to learn at their own pace (Godwin-Jones, 2018). They also engage learners through interactive, gamified experiences, stimulating interest and motivation in language acquisition. Furthermore, AI solutions can easily scale to accommodate large numbers of learners, democratizing access to quality educational resources.

Despite its benefits, there are notable challenges associated with AI in language education. The quality of feedback provided by AI tools, while rapid, may not always match the depth and nuance offered by human instructors, particularly in complex language use (Sullivan, 2020). Additionally, there is a concern about over-reliance on technology, which could diminish the development of critical thinking and interpersonal communication skills. Equity and access remain significant challenges, as disparities in access to technology can exacerbate educational inequalities, particularly for students from underserved



communities. Furthermore, ethical considerations arise regarding data privacy, algorithmic bias, and the influence of AI on learning behaviors (Bennett, 2022). Therefore, while AI has undeniably become an integral part of language education, enhancing personalized experiences and student engagement, it is essential to address its challenges to ensure effective and inclusive language learning for all students.

Vocabulary and grammar are central to effective EFL writing because they influence clarity, precision, coherence, and grammatical accuracy. AI chatbots offer new opportunities for learners to obtain immediate language support, yet their educational value cannot be understood only from the speed or convenience of correction. Of particular importance is how students interpret AI feedback, whether they actively reflect on corrections, and whether repeated use strengthens or weakens independent writing. Previous work has discussed AI-supported language learning, but students' experiences of using chatbots specifically for vocabulary choice and grammar revision in authentic EFL writing remain insufficiently understood. In addition, concerns regarding contextual accuracy, over-reliance, privacy, bias, and the possibility of accepting incorrect suggestions require closer attention. This study therefore focuses on students' perceptions and actual patterns of engagement with AI chatbots, while recognizing that perceived usefulness is not equivalent to demonstrated long-term language proficiency.

The purpose of this study is to investigate students' perspectives on the role of AI chatbots in enhancing vocabulary and grammar in EFL writing practices. Specifically, it examines how students use AI chatbots for vocabulary selection and grammatical revision, how immediate feedback influences their engagement and confidence, and what limitations they encounter when evaluating AI-generated suggestions. The study also considers whether students use AI reflectively—as a scaffold for understanding language—or depend on it primarily as a correction tool. By examining both perceived benefits and reported limitations, the study aims to provide practical insights for responsible integration of AI chatbots into EFL writing instruction.



2. Method

This study employed a qualitative descriptive approach to understand students' experiences and perceptions of using AI chatbots in EFL writing. Qualitative inquiry is appropriate for examining how participants interpret their learning experiences within a specific educational context (Rajen K, G., & Awasthy, 2015). The study did not attempt to establish causal effects or statistically measure improvement; instead, it explored patterns of use, perceived benefits, learning behaviors, and perceived limitations associated with AI-assisted vocabulary and grammar work.

2.1. Setting and Participants

The study was conducted at Universitas Widya Gama Mahakam Samarinda and involved ten students from the Management Study Program who had experience using AI chatbots in English writing activities. The participants provided information about how they used AI tools to support vocabulary selection, grammar correction, sentence revision, and writing practice. Because the sample was small and drawn from one academic program, the findings are context-specific and are not intended to represent all EFL learners. Variation across English proficiency levels and academic disciplines should be examined in future research.

2.2. Research Instruments

The researcher served as the primary instrument in this qualitative study and was supported by a semi-structured interview guide, an observation sheet, and documentation. The instruments focused on students' purposes for using AI chatbots, their responses to vocabulary and grammar feedback, their level of engagement with explanations and corrections, and the challenges they experienced when AI-generated suggestions did not match their intended meaning or academic context.



2.3. Data Collection Techniques

Data were collected through three complementary techniques: observation, semi-structured interviews, and documentation. Using multiple sources enabled the researcher to compare students' reported experiences with observed patterns of AI use.

1. Observation

Observation was used to examine how students interacted with AI chatbots during EFL writing activities. Attention was given to the kinds of prompts students used, how they responded to vocabulary and grammar suggestions, whether they requested explanations, and whether they accepted or evaluated AI-generated revisions. Observation is a fundamental qualitative method for examining behavior in context (Smit & Onwuegbuzie, 2018).

2. Interview

Semi-structured interviews were conducted with the participating students to explore their experiences of using AI chatbots for EFL writing. Questions addressed perceived usefulness, vocabulary development, grammar correction, confidence, independent learning, difficulties with inaccurate or contextually inappropriate feedback, and strategies for deciding whether to accept or reject AI suggestions. Follow-up questions were used when clarification or deeper explanation was needed.

3. Documentation

Documentation consisted of interview recordings, relevant observation records, and supporting records of the data-collection process. These materials were used to support systematic analysis and to cross-check information obtained through interviews and observations.

2.4. Data Analysis Technique

The data were analyzed using an interactive qualitative analysis process consisting of data reduction, data display, and conclusion drawing (Wahib, 2020). First, interview and observation data were organized and reduced according to recurring



themes related to vocabulary support, grammar feedback, learner engagement, autonomy, over-reliance, and limitations of AI-generated feedback. Second, the categorized data were displayed narratively to identify similarities and differences across participants. Third, conclusions were developed by interpreting recurring patterns and comparing evidence from interviews, observations, and documentation.

1. Data reduction: relevant interview, observation, and documentation data were selected, coded, and grouped into recurring themes.
2. Data display: the categorized findings were organized narratively to show patterns in students' use and perceptions of AI chatbots.
3. Conclusion drawing: interpretations were developed from recurring patterns and checked against evidence from the different data sources.

2.5.Triangulation

Triangulation was used to strengthen the credibility of the findings by comparing evidence obtained through interviews, observations, and documentation. Rather than relying on a single statement or source, the researcher examined whether reported experiences were consistent with observed behavior and supporting records. This approach is consistent with the principle that triangulation can strengthen qualitative interpretation by examining a phenomenon through multiple sources or techniques (Malamatidou, 2022).

1. Comparing responses across participants and using follow-up questions to clarify important or inconsistent statements.
2. Comparing interview accounts with observed patterns of students' interaction with AI chatbots.
3. Interpreting convergent and divergent evidence in relation to the theoretical framework and the research objectives.



3. Findings and Discussion

This study explored students' perspectives on the role of AI chatbots in enhancing vocabulary and grammar in English as a Foreign Language (EFL) writing. Data were gathered through observation, interviews, and documentation, then analyzed using an interactive qualitative analysis model. Interviews were conducted with ten students, but the following summaries focus on the specific perspectives of five key informants regarding the role of AI chatbots in enhancing vocabulary and grammar in EFL writing.

a. Interview Results

The interviews with the five student informants revealed several insightful perspectives regarding the use of AI chatbots in their EFL writing practices. Across all responses, AI chatbots were generally perceived as helpful, readily accessible tools that support the writing process and reduce anxiety when dealing with complex grammar and vocabulary. Students described the chatbot as a “non-judgmental assistant” that provides a sense of security when experimenting with new sentence structures, which made the process of writing in English feel less intimidating and more approachable.

One of the most valued features of AI chatbots, particularly ChatGPT, was the immediate feedback they offer. Students appreciated how quickly they could identify grammatical errors and explore alternative word choices or sentence forms, which in turn contributed to vocabulary expansion. This feedback loop, they noted, allowed them to reflect on their mistakes and gradually internalize correct forms, especially in contexts where human feedback from instructors might be delayed or unavailable.

Interestingly, students' patterns of use varied. Some approached AI as an active learning partner—engaging with it not just to correct mistakes but to seek explanations and improve their linguistic knowledge. They would ask “why” a particular structure was incorrect or how to use a certain word in context, thereby using AI as a dynamic resource for self-directed



learning. Others, however, admitted to relying on AI primarily for quick corrections or polishing drafts before submission. While this approach was seen as efficient, a few students expressed concern that such usage might limit their opportunity for deeper learning.

Despite the overall positive outlook, students also demonstrated a critical awareness of the limitations of AI chatbots. They acknowledged that AI-generated responses are not always contextually or academically accurate. Some had encountered awkward phrasing or overly formal constructions that did not align with their intended meaning. As a result, they emphasized the importance of human judgment and cross-checking information with trusted sources, particularly for high-stakes academic writing.

In conclusion, most students agreed that while AI chatbots enhance the writing and learning process, they should be used as complementary tools—not as substitutes for critical thinking, personal effort, or instructor guidance. When integrated mindfully, AI chatbots can serve as powerful allies in developing students' confidence, fluency, and autonomy in EFL writing.

Informant 1:

This student viewed AI chatbots as *a personal tutor*.

“When I feel confused about grammar or sentence structure, I just ask ChatGPT. It feels like having a teacher available 24/7.”

They reported that AI helped them revise their drafts before submitting assignments and taught them to correct sentence structure on their own.

Informant 2:

This student was excited about technology and strongly integrated AI into their writing.

“I don’t just use it to check grammar—I ask it to explain why something is wrong. It’s like learning with explanation.”



They believed that AI provided a learning experience beyond correction, particularly helping with unfamiliar vocabulary.

Informant 3:

This participant was more cautious.

“AI chatbots are helpful, but sometimes they give answers that don’t sound natural or academic.”

While they appreciated the support, they emphasized the importance of validating the output, especially when preparing academic essays or theses.

Informant 4:

This student admitted using AI mostly for quick fixes.

“Honestly, I use AI when I’m in a rush. I copy my paragraph and ask for improvement.”

While it saved time, they were aware that they weren’t fully learning from the process and expressed concern about becoming too dependent on it.

Informant 5:

This student used AI as a practice tool.

“I practice writing short paragraphs and then check with the chatbot if my grammar is correct.”

They noted that AI responses helped build confidence and encouraged them to try more complex sentence structures.

b. Observation Results

Observations conducted during writing-focused classroom activities revealed that students were not only familiar with AI chatbots—particularly ChatGPT—but were also actively incorporating them into their academic routines. Their use of these tools went beyond mere experimentation; rather, AI chatbots had become embedded in their personal writing processes. A notable behavior observed was the students’ tendency to consult AI when they struggled to find precise or contextually appropriate vocabulary. They often used chatbots to suggest synonyms that aligned with academic tone or discipline-specific language, indicating an



awareness of stylistic nuance in formal writing. This behavior suggests that AI was serving as a linguistic resource that extended students' active vocabulary and improved word choice precision.

In addition to vocabulary assistance, students frequently turned to AI for grammatical support. Before submitting writing assignments, many of them would input sentences or paragraphs into the chatbot to detect and correct errors. They paid close attention to suggestions related to verb tense consistency, subject-verb agreement, punctuation, and sentence clarity. Rather than relying passively on the corrections, some students engaged in brief back-and-forth exchanges with the chatbot to understand the rules behind the revisions. This pattern reflected a conscious effort to internalize grammatical knowledge rather than merely fix surface-level issues.

Furthermore, the observations highlighted that students were treating AI chatbots not as mere tools, but as interactive learning partners. Several students used the chatbot as a form of personalized consultation, asking it to rephrase unclear sentences, provide alternative expressions, or explain why a particular structure was preferred. This behavior resembled dialogic learning, where learners build knowledge through continuous interaction and clarification. The chatbot, in this case, functioned as a scaffold that supported learners' development by offering immediate feedback in a low-pressure environment. Overall, these observations demonstrate that students are engaging with AI tools in meaningful, intentional ways that reflect not only digital familiarity but also a strategic approach to enhancing their EFL writing skills. Their use of AI chatbots goes beyond correction—it reflects a process of exploration, learning, and linguistic development within the context of academic writing.

4. Discussion

The findings of this study, drawn from both interviews and classroom observations, reveal that AI chatbots are increasingly integrated into students' EFL writing practices and are largely perceived as helpful, flexible tools that enhance their learning experience. This



perception aligns well with contemporary views in second language acquisition (SLA) and educational psychology, where technology is recognized as a meaningful mediator of language development.

Students' use of AI chatbots to explore vocabulary and revise grammar reflects the role of technology as a scaffolding tool, as proposed by Vygotsky's sociocultural theory. In this context, AI functions as a "more capable other," supporting learners within their Zone of Proximal Development (ZPD). Students engage in interactive exchanges with the chatbot—asking for synonyms, sentence suggestions, or grammar explanations—which mirrors the dialogic learning processes typical of scaffolded instruction. Rather than simply copying corrections, several students were observed and reported seeking to understand *why* certain suggestions were more appropriate, indicating the chatbot's role in fostering deeper linguistic awareness.

From the perspective of SLA theory, particularly Krashen's *Input Hypothesis* and Schmidt's *Noticing Hypothesis*, the students' interaction with AI provides both comprehensible input and opportunities for *noticing* language features. For instance, the chatbot's capacity to offer immediate grammar correction and vocabulary alternatives makes learners aware of gaps in their interlanguage. This supports the process of internalizing correct forms through exposure to input that is just beyond their current level, an essential mechanism for language acquisition.

In addition, the study highlights that AI chatbots contribute positively to learner autonomy and motivation. The ease of access to AI tools like ChatGPT allows students to engage in independent learning beyond the classroom. This behavior aligns with the principles of self-regulated learning, where learners plan, monitor, and evaluate their progress. Interviews revealed that many students used AI proactively, not only to fix mistakes but to improve their writing incrementally. This demonstrates an emerging sense of ownership over their learning—a key factor in successful language development.



Equally important, the affective dimension of language learning was addressed in the findings. According to Krashen's *Affective Filter Hypothesis*, lower anxiety leads to more effective acquisition. Students expressed that using AI chatbots made them feel more confident and less self-conscious about making mistakes. The private, non-judgmental interaction with a chatbot helped reduce the pressure typically associated with writing in a foreign language, thus encouraging more frequent practice and experimentation.

Despite these advantages, the findings also show that AI-supported writing requires critical engagement. Students reported that chatbot suggestions could be contextually inappropriate or insufficiently academic. This creates a decision-making challenge: learners must compare an AI-generated correction with their intended meaning rather than assume that every correction is linguistically or rhetorically superior. The educational value of AI therefore lies not only in producing corrected text, but also in prompting students to notice alternatives, ask for explanations, evaluate suggestions, and justify their final choices. When students merely copy AI output, the tool may reduce opportunities for productive struggle and independent formulation; when they interrogate the feedback, it can support higher-level cognitive engagement through comparison, evaluation, and revision. This distinction is important because the present study documents perceived learning and reflective behaviors, but it does not establish that AI use causes long-term gains in proficiency.

Taken together, the findings suggest that AI chatbots can support vocabulary building, grammar awareness, confidence, and learner autonomy when they function as scaffolds rather than substitutes for students' own reasoning. At the same time, their effectiveness is constrained by possible inaccuracies, contextual mismatch, and over-reliance. Ethical issues such as privacy, responsible disclosure of AI use, and potential bias in generated feedback also deserve explicit attention in instructional practice. Teachers can help students develop AI literacy by requiring them to verify suggestions, explain why revisions are appropriate, and compare AI feedback with course materials or instructor guidance. The present findings are limited by the small sample of ten students from one



academic program and by the cross-sectional qualitative design. Future studies should include more diverse proficiency levels and disciplines, compare multiple AI platforms, incorporate teachers' perspectives, and use longitudinal or mixed-method designs to determine whether reflective AI use produces sustainable improvements in independent EFL writing.

5. Conclusion

This qualitative study concludes that AI chatbots, particularly ChatGPT, are perceived by participating students as useful supports for vocabulary selection, grammar revision, sentence rephrasing, and explanation in EFL writing. Their immediate and non-judgmental feedback can encourage experimentation, confidence, and autonomous practice. More importantly, the findings indicate that the quality of learning depends on how students engage with the feedback. Reflective use—asking why a correction is suggested, comparing alternatives, and retaining control over the final text—offers greater educational value than simply copying AI-generated revisions.

The study also identifies important limitations. AI feedback may be inaccurate, contextually inappropriate, or unsuitable for academic writing, and excessive dependence may weaken opportunities for independent language production and critical thinking. Accordingly, AI chatbots should be integrated with explicit guidance on verification, academic integrity, privacy, and critical AI literacy. Because this study involved only ten students from one academic program and did not measure changes in proficiency over time, its conclusions should not be generalized as evidence of long-term causal improvement. Future research should involve larger and more diverse samples, multiple AI tools, teacher perspectives, and longitudinal or mixed-method designs to examine sustainable language development and higher-order cognitive engagement.



DECLARATION OF GENERATIVE AI

In preparing this manuscript, the authors used ChatGPT, Grammarly, and QuillBot to assist with editing and grammatical accuracy in the language. The authors went over and edited the material produced by these tools and agree to be responsible for the contents of this manuscript

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