

Volume 12
No. 3, 2025
page 341-355

Article History:
Submitted:
10-10-2025
Accepted:
22-10-2025
Published:
28-10-2025

TEENS, TEXT, AND TECHNOLOGY: THE PERCEPTION OF HIGH SCHOOL EFL WRITERS OF ARTIFICIAL INTELLIGENCE

Luthfia Yuha Rofiidah^{1,*}, Tatik Irawati²
^{1,2} Universitas PGRI Jombang

Email: luthfiayuharofiidah@gmail.com¹, tatik.stkipjb@gmail.com²

URL: <https://jeell.upjb.ac.id/index.php/files/article/view/102>

DOI: <https://doi.org/10.32682/jeell.v12i3.102>

*Corresponding Author

Abstract

This study investigated senior high school EFL students' perceptions of artificial intelligence (AI) in English writing activities. The study employed a qualitative descriptive design with purposive sampling involving eight EFL students in Jombang Regency who had prior experience using AI. Data were collected through open-ended questionnaires distributed via Google Forms and analyzed using thematic analysis. The results revealed two main themes: Academic Writing Support and Usability and Accessibility. Students perceived AI as beneficial for generating ideas, improving grammar, enhancing sentence clarity, organizing writing structures, increasing writing efficiency, and boosting their writing confidence. They also considered AI tools easy to learn, accessible across devices, and suitable for self-directed learning, although minor technical issues and concerns about dependence were noted. Beyond extending the constructs of perceived usefulness and ease of use from the Technology Acceptance Model, the results highlighted AI's role as both a cognitive and emotional support system in writing. The study concluded that AI functioned not only as a technical aid but also as a reflective learning partner, shaping students' autonomy and identity as writers. These insights suggested that AI could be integrated effectively into English language learning, provided that it is used ethically and supported by pedagogical guidance.

Keywords: : *artificial intelligence, EFL students, writing perception, technology use*



This is an open access article distributed under the Creative Commons 4.0 Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. ©2025 by author(s).

To cite this article: Rofiidah, L. Y. & Irawati, T. (2025). Teens, text, and technology: the perception of high school EFL writers of artificial intelligence. *JEELL: Journal of English Education, Linguistics and Literature*, 12(3). 341- 355. <https://doi.org/10.32682/jeell.v12i3.102>

Introduction

The development of digital technology has revolutionized the way education is delivered and experienced across all levels, ranging from elementary schools to higher education. Among these innovations, artificial intelligence (AI) has emerged as one of the most influential forces shaping contemporary pedagogy. Integrating machine learning algorithms into educational settings, AI is widely applied to facilitate tasks such as automated assessment, personalized feedback, adaptive learning pathways, and the creation of customized instructional materials. Through these affordances, AI is increasingly regarded not only as a technical tool but also as a cognitive and pedagogical partner capable of transforming the teaching and learning process (Holmes et al., 2022; Luckin et al., 2021). In practical terms, the integration of AI into classrooms has been shown to reduce teachers' administrative burdens, provide real-time insights into learners' difficulties, and enhance motivation through instant and personalized support (Wang et al., 2022; Xie et al., 2023; Zhao et al., 2021). These features make AI a strategic innovation for facing the challenges of 21st-century education.

In the context of English as a Foreign Language (EFL) learning, writing is often considered the most demanding skill because it requires not only grammatical accuracy but also the ability to generate ideas, organize arguments, and convey meaning in a coherent and persuasive manner. Unlike speaking, where learners can negotiate meaning interactively, writing requires sustained attention to vocabulary choice, sentence complexity, discourse organization, and academic conventions (Hyland, 2021; Nguyen et al., 2023). For many EFL students, especially at the secondary school level, writing in English presents major obstacles such as limited vocabulary, lack of grammatical mastery, and difficulty in maintaining logical flow across paragraphs. These difficulties are often exacerbated by writing anxiety, where students fear making mistakes or struggle to begin writing at all (Zheng et al., 2022). Consequently, EFL writing instruction increasingly incorporates supportive pedagogies and technologies to help learners build both linguistic and rhetorical competence.

Artificial intelligence (AI) has rapidly been adopted as one such support system in EFL writing. Applications such as Grammarly, Quillbot, and ChatGPT provide real-time grammar correction, paraphrasing options, vocabulary suggestions, and even model text generation. Studies show that

these tools can enhance the accuracy and fluency of learners' writing while also fostering independent learning behaviors (Yang & Yu, 2023; Shao, 2025). Beyond technical corrections, AI can function as a reflective partner that stimulates idea generation, offers feedback on clarity, and guides learners through the recursive stages of the writing process: planning, drafting, revising, and editing (Harmer, 2004). This scaffolding is particularly valuable for adolescents, who as digital natives are accustomed to exploring digital tools intuitively and often incorporate them into daily learning practices (Almerich et al., 2021).

Nevertheless, the benefits of AI in writing are mediated by how students perceive and engage with it. Perception, as defined by Mussen (1973 in Nursanti, 2016), reflects an individual's interpretation of a phenomenon shaped by prior experiences and expectations. In the case of educational technology, perception is crucial because it determines whether learners adopt tools critically and productively or rely on them unreflectively. Several studies (Alzahrani & Alotaibi, 2024; Saputra & Hendriani, 2024) report that students generally view AI as helpful for grammar checking, sentence clarity, and vocabulary development. However, they also raise concerns about potential overreliance, which could diminish learners' independent thinking and critical engagement. Godwin-Jones (2021) similarly caution that excessive dependence on AI may erode authentic writing skills and blur ethical boundaries, such as plagiarism and originality of thought.

For high school students, who are in the formative stage of developing academic literacy, such risks are particularly pressing. While they are familiar with digital platforms and quick to adopt new applications, their critical awareness of ethical and cognitive implications is often limited. Without adequate pedagogical guidance, AI use may reinforce superficial learning strategies rather than deeper engagement with language and meaning (Kim & Lim, 2024). This tension underscores the importance of understanding students' own perceptions: whether they see AI as a supportive partner that enhances learning, or whether they risk depending on it to the extent that their autonomy and creativity are compromised.

Existing research provides valuable insights into AI in language learning, but much of it remains concentrated on higher education contexts, focusing primarily on product-oriented outcomes such as grammar accuracy, fluency scores, or writing performance (Perdana et al., 2021; Rahimi et al., 2023; Zheng et al., 2022). While these studies demonstrate measurable improvements, they often overlook the subjective experiences and meaning-making processes of younger learners. A few recent works (Kim, 2023; Gao &

Wang, 2023) have begun to explore attitudes and perceptions, but comprehensive investigations at the secondary school level remain scarce. This gap is significant because secondary-level learners represent a unique population: they are digital natives experimenting with AI for the first time in formal academic writing and are still shaping their identities as autonomous learners and emerging academic writers.

Addressing this gap, the present study focuses on high school EFL students' perceptions of using AI in their writing activities. Unlike previous research that highlights final outcomes, this study emphasizes students' lived experiences, reflections, and practices when interacting with AI tools in real time. Specifically, it seeks to understand how learners perceive AI's usefulness, ease of use, and role as both a cognitive and affective support system in writing. The study is grounded in the Technology Acceptance Model (TAM) framework (Venkatesh & Bala, 2008), yet extends it by considering the pedagogical, emotional, and ethical dimensions that emerge in secondary education contexts.

Research Methods

Design

This study employed a qualitative descriptive design to investigate how senior high school EFL students perceive the use of artificial intelligence (AI) in their English writing activities. As Creswell and Poth (2018) emphasize, qualitative descriptive research is particularly appropriate when the aim is to explore participants' lived experiences and capture their perspectives in a natural and contextualized manner. Rather than focusing on statistical generalization, the purpose of this approach is to provide a rich, detailed description of how learners interpret the phenomenon under study. In this case, the research was directed toward understanding how high school EFL students perceive the use of artificial intelligence in their English writing activities.

Participants

The participants were eight EFL students aged between 15 and 18 years, selected through purposive sampling. All students came from senior high schools in Jombang Regency, East Java, an area known for its increasing digital literacy and diverse educational backgrounds (Badan Pusat Statistik, 2023). A key selection criterion was that students had prior experience using AI tools, such as Grammarly, ChatGPT, or Quillbot, at least five times in their learning activities. This ensured that participants could provide meaningful reflections on the integration of AI in their writing process. Purposive sampling was chosen because it enables researchers to select information-

rich cases that are most relevant to the focus of the study. Although the sample was relatively small, the emphasis of qualitative research lies in depth and relevance of data, not breadth, thereby aligning with the study's objectives.

Instrument

The main research instrument was a 12-item open-ended questionnaire designed based on the constructs of the Technology Acceptance Model 3 (TAM 3) developed by Venkatesh and Bala (2008). The items were organized to capture two major dimensions: perceived usefulness and perceived ease of use. Questions were formulated to elicit students' reflections in their own words, allowing them to describe their experiences with AI tools in writing tasks. Prior to implementation, the instrument was reviewed by experts in language education and educational technology to ensure content validity. This process helped refine the wording of items, making them more comprehensible for high school students while still aligned with the theoretical framework.

Data Collection

Data collection was conducted through Google Forms, where the questionnaire was distributed online to the selected participants. The choice of an online platform was considered effective, because it allowed students to complete the responses flexibly and confidentially, thereby reducing potential pressure from face-to-face settings. To enhance the credibility of the data, several validation strategies were employed. First, member checking was conducted, whereby participants were contacted via WhatsApp to confirm and clarify their answers, ensuring that the interpretations accurately reflected their intended meanings. Second, peer debriefing was undertaken with fellow researchers to discuss coding decisions and interpretations, minimizing individual bias. Third, triangulation was achieved by comparing questionnaire data with insights from students' diary notes and reflective accounts, which provided additional depth and reliability to the findings. These procedures followed Creswell and Poth's (2018) guidelines for ensuring trustworthiness in qualitative research.

Data analysis

Thematic analysis was applied to analyze the collected data, as it is a widely used method for identifying, categorizing, and interpreting recurring patterns in qualitative responses (Braun & Clarke, 2006; Creswell & Poth, 2018). The process involved several stages: (1) familiarization with the data through repeated reading, (2) generating initial codes that captured

meaningful units of information, (3) grouping related codes into broader categories, (4) identifying themes that represented students' perceptions of AI in writing, and (5) reviewing and refining themes to ensure coherence and distinctiveness. Two overarching themes: Academic Writing Support and Usability and Accessibility were developed from this process, providing a structured yet nuanced account of how students experienced AI tools in their writing.

Results and Discussion

Results

Thematic analysis of students' responses generated two overarching themes: (1) Academic Writing Support and (2) Usability and Accessibility of AI Tools. Thematic analysis was applied to eight students' open-ended responses and produced a set of codes clustered under each theme. Each theme was supported by several categories and codes that reflected how students perceived and experienced the role of AI in their English writing activities. The results not only illustrate the functional benefits of AI, but also highlight its affective impact on learners, showing how it shaped their confidence, motivation, and sense of autonomy in the writing process.

Theme 1: Academic Writing Support

The first theme captures the multiple ways in which AI tools, particularly ChatGPT and Grammarly were perceived to support students' academic writing. Participants consistently described AI as more than a mechanical checker; they saw it as a partner that could stimulate ideas, refine their language, and provide guidance across the stages of the writing process.

1. The use of AI in generating and organizing ideas

Several students emphasized that AI was particularly helpful in overcoming writer's block by suggesting initial ideas or providing examples that they could further develop. One respondent noted, "AI gives me ideas that I can develop into paragraphs" (R4). Another explained, "ChatGPT helped me to arrange an outline before I started writing" (R5). Similarly, other participants expressed that AI provided topic suggestions and guided them in building paragraph coherence, as reflected in comments such as "It helps me decide what to write next" (R2) and "AI gives examples that make it easier to expand my ideas" (R7). This shows that AI acted as a brainstorming partner, enabling students to start their writing with greater ease and direction.

2. The use of AI in improving grammar accuracy and enriching vocabulary

Students highlighted how AI supported their language accuracy by pointing out grammatical errors and offering alternatives. One student

commented, “AI corrected my grammar and spelling, so I can notice my mistakes and learn from them” (R1). Similarly, another shared, “My grammar feels more controlled now” (R6). In addition to grammar, AI tools enriched vocabulary by suggesting more appropriate word choices, which students felt enhanced the sophistication of their writing.

3. The role of AI in revising sentence clarity and writing style

Beyond correcting errors, AI was valued for helping students make their sentences clearer and more concise. A participant noted, “ChatGPT suggested simpler and clearer sentences” (R1), while another reflected, “It helped me paraphrase sentences that were confusing” (R6). Students perceived this process not only as a correction but also as a learning opportunity to internalize better sentence structures.

4. AI's contribution to providing structural guidance in writing

Students frequently mentioned that AI tools supported them in structuring their writing into logical sections, such as introductions, bodies, and conclusions. One student remarked, “AI showed me how to arrange my essay so it became more logical and readable” (R7). Another added, “The storyline was organized by AI suggestions” (R8). Such feedback demonstrates how AI played a role in scaffolding the overall discourse structure, not merely at the sentence level.

5. The impact of AI on enhancing writing efficiency and productivity

Efficiency was a strong theme across responses, with students consistently stating that AI reduced the time needed to complete assignments. One participant compared, “It used to take me two hours, but now only 45 minutes” (R1). Another added, “AI gives ideas and sentences very quickly, so I can write faster and better” (R5). This sense of efficiency was closely tied to reduced stress and increased willingness to engage in writing tasks.

6. How AI boosts students' writing confidence and motivation

AI was also perceived as an affective companion that increased students' confidence. A participant described, “I feel more confident when writing because AI reassures me that my writing is correct” (R8). Another stated, “It gives me a sense of safety when I am writing” (R6). Such reflections suggest that AI served as an emotional support system, helping students to write more freely without constant fear of mistakes.

7. Students' concerns about dependence on AI tools

Despite these positive perceptions, some students expressed concerns about becoming too dependent on AI. For example, one commented, “I worry that if I always use AI, I will not learn by myself” (R2). This demonstrates that

while AI was appreciated as a helpful support, students also recognized its limitations and the potential risks for their long-term learning and autonomy.

Theme 2: Usability and Accessibility

The second theme relates to how students perceived the usability and accessibility of AI tools. Most respondents emphasized that these applications were intuitive, convenient, and easily integrated into their learning routines.

1. The ease of learning and using AI tools

Students repeatedly mentioned that AI tools required no formal training to use. One noted, "It was very easy to use, I just tried it and understood quickly" (R5). Another added, "I did not need tutorials because the layout is clear" (R6). This ease of use reflects how AI tools aligned well with students' digital habits as tech-savvy learners.

2. The simplicity and intuitiveness of AI interfaces

The user-friendly interface of AI applications was appreciated by participants. A student commented, "The interface is simple and clean, so I know exactly where to click" (R6). Another emphasized, "ChatGPT is easy to navigate without confusion" (R8). These accounts show that design simplicity contributed to a smooth user experience.

3. The accessibility of AI tools across different devices

AI's flexibility across devices was another advantage. Students highlighted that they could use it anytime and anywhere, as long as internet access was available. One respondent shared, "I can use it on my phone or laptop anywhere" (R3), while another added, "Very flexible, I even used it while commuting" (R5). This accessibility reinforced students' perception of AI as a reliable learning companion beyond the classroom.

4. Students' ability to self-learn AI tools quickly

Students also valued the way AI tools supported independent learning. Without needing external guidance, they were able to explore the functions and adapt them to their needs. One explained, "I learned it from online guides, but mostly I explored it by myself" (R6). This indicates that AI use fostered a sense of agency and autonomy in technology adoption.

5. Minor technical limitations experienced when using AI

Although overwhelmingly positive, students did note minor technical issues, particularly when internet connectivity was weak. One student reported, "Sometimes it lags when the signal is bad" (R3). However, such problems were described as temporary inconveniences that did not significantly hinder overall usage.

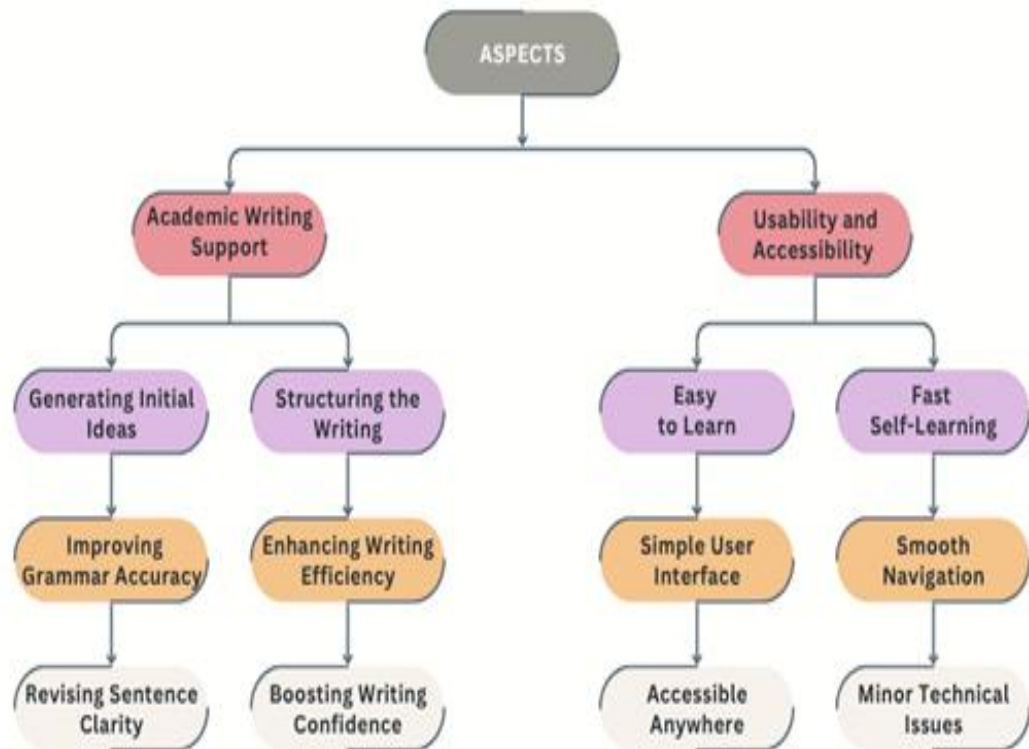


Figure 1.1 Theme and Coding of Result

Table 1.1 Students' Perceptions of AI in Writing Activities (n=8)

Theme	Percentage of Students (%)	n (Number of Students)	Description
Generating Initial Ideas	75%	6	Most students acknowledged AI helped them overcome idea blocks and start writing.
Improving Grammar Accuracy	87.5%	7	Nearly all participants valued AI for correcting grammar and punctuation.
Revising Sentence Clarity	75%	6	Students reported clearer and more coherent sentences after AI suggestions.
Structuring the Writing	62.5%	5	More than half highlighted AI's role in organizing ideas into logical structures.
Enhancing Writing Efficiency	87.5%	7	Most students found that AI significantly reduced the time needed for writing.
Boosting Writing Confidence	75%	6	Many expressed greater confidence in their writing after using AI.

Easy to Learn	100%	8	All students stated that AI was simple to learn without formal training.
SimpleUser Interface	87.5%	7	The majority appreciated the clear and intuitive design of AI platforms.
Accessible Anywhere	100%	8	All participants emphasized AI's flexibility across devices and settings.
Fast Self-Learning	75%	6	Students noted they could master AI tools independently through exploration.
Smooth Navigation	62.5%	5	Over half agreed AI features were easy to find and navigate.
Minor Technical Issues	25%	2	Only a few students experienced occasional internet or loading problems.

The results show that students perceived AI not only as a technical assistant for improving grammar, vocabulary, and structure, but also as a reflective and affective partner that influenced their confidence and motivation. The findings suggest that AI tools functioned at both the cognitive level (enhancing language accuracy, structure, and efficiency) and the emotional level (boosting confidence and reducing writing anxiety). At the same time, a few students expressed cautious awareness of the risk of dependence, underscoring the need for pedagogical scaffolding to ensure balanced and critical use.

Discussion

The findings of this study revealed that high school EFL students generally have positive perceptions toward the use of artificial intelligence (AI) in their English writing activities. These perceptions were organized into two key themes: Academic Writing Support and Usability and Accessibility, both of which closely reflect the constructs of Perceived Usefulness and Perceived Ease of Use in the Technology Acceptance Model (TAM) proposed by Venkatesh & Bala (2008). However, this study also expands those theoretical constructs by introducing deeper pedagogical and affective dimensions relevant to the EFL secondary education context.

In the context of the Technology Acceptance Model (TAM), Perceived Usefulness is defined as the extent to which individuals believe that using a particular technology improves their performance. In this study, however,

students' accounts revealed that usefulness extended beyond the domain of efficiency. In TAM, Perceived Usefulness is defined as the extent to which individuals believe that using a particular technology improves their performance. In this study, however, students' accounts revealed that usefulness extended beyond the domain of efficiency. They described AI as supportive in generating ideas, refining grammar, improving sentence clarity, structuring essays, enhancing productivity, and boosting their writing confidence. These roles suggest that AI was not merely experienced as a technical instrument but also as a reflective and cognitive partner in the writing process.

This nuanced view aligns with Hyland's (2021) emphasis on the complexity of writing as a process involving not only linguistic accuracy but also the development of argumentation, organization, and identity. AI, in this case, was perceived as scaffolding these processes by providing ongoing feedback and suggestions that students could engage with interactively. Previous studies (Sitorus et al., 2025; Godwin-Jones, 2023) confirm that tools like Grammarly and ChatGPT are valued for their immediate corrective functions. However, the present research adds to this literature by showing how secondary students perceive AI as shaping not just the final product, but also their confidence and agency as developing writers.

Students' reflections further indicate that AI served as an affective companion that helped alleviate writing anxiety, offering reassurance and motivation. This finding deepens the construct of usefulness by showing that students valued AI not only for its capacity to improve writing outcomes but also for its contribution to the psychological and emotional dimensions of learning. Such perspectives echo the work of Godwin-Jones (2021) and Zheng et al. (2022), who caution that affective responses to technology shape long-term learning engagement. Thus, in the secondary EFL context, usefulness cannot be narrowly defined as productivity; it must also include affective growth, reflective learning, and the development of learner autonomy.

Reframing Perceived Ease of Use through Usability and Accessibility

TAM's concept of Perceived Ease of Use refers to how effortlessly a person can operate a technology. In this study, that idea evolves into a broader theme of Usability and Accessibility, encompassing six indicators: easy to learn, simple user interface, accessible anywhere, fast self-learning, smooth navigation, and minimal technical issues. This shows that students evaluate ease of use not only from technical interaction but also from how technology fits their learning lifestyles, flexible, mobile, and independent.

Most participants described AI tools like ChatGPT and Grammarly as intuitive, self-teachable, and smoothly integrated into their study routines.

This supports findings from Saputra & Hendriani (2024), who reported that students found QuillBot helpful in enhancing writing fluency and simplifying sentence structure. The current study strengthens this view by illustrating that AI not only provides accessible features but also facilitates student-driven learning outside the classroom. Hence, ease of use in digital learning environments must also consider usability design, autonomous learning capacity, and situational access.

The results resonate with earlier research, including that of Tampubolon et al. (2025), who noted that over 80% of high school students responded positively to AI tools in English learning, citing their effectiveness and simplicity. While their research did not focus specifically on writing, it reflected the same general trend: students view AI as an empowering and adaptive learning strategy.

Moreover, this study extends the findings of Salama et al. (2024), who found that teachers also appreciated AI for its usefulness in writing tasks. Although targeting different stakeholders, both studies demonstrate that AI is accepted and valued across various educational levels. What differentiates the current research is its focus on students' lived experiences, offering a bottom-up understanding of AI's role in shaping writing behaviors, preferences, and identities in the secondary EFL context.

This study contributes to a more humanistic interpretation of the Technology Acceptance Model by adding layers of emotional and cognitive meaning to its core constructs. The findings suggest that students' perceptions are shaped not only by task performance or system interface, but also by how technology affects their confidence, autonomy, and creativity in writing.

The practical implications are significant. First, schools should consider integrating AI tools into language instruction, not only for grammar and revision but also for idea generation and writing structure. Second, curriculum designers should include AI literacy as a component of digital literacy education, ensuring that students understand both the capabilities and the ethical considerations of using such tools. Third, teachers can act as facilitators who guide students in making AI a reflective learning companion rather than a shortcut or replacement.

The novelty of this research lies in its focus on secondary-level learners, a group often overlooked in AI-related studies that primarily examine university contexts. By capturing the perspectives of high school students, this study highlights how adolescents, digital natives in their formative stages of academic literacy perceive AI not only as a technological tool but also as a reflective partner in their learning journey. This insight enriches our understanding of technology adoption in education and

underscores the importance of student-centered approaches when implementing AI in classrooms.

Therefore, this study reveals that secondary EFL students perceive AI as more than a tool, it is a learning partner that enhances both the technical and personal aspects of writing. The themes of Academic Writing Support and Usability and Accessibility illustrate that students value AI for its ability to support content development, boost confidence, and offer seamless, self-directed learning experiences. These insights contribute to expanding the Technology Acceptance Model and support the argument for more nuanced, context-specific, and student-centered approaches in future educational technology integration.

Conclusion

This study investigated the perceptions of senior high school EFL students toward the use of artificial intelligence (AI) in their English writing activities. The results indicate overwhelmingly positive responses, organized into two main themes: Academic Writing Support and Usability and Accessibility, which not only align with the constructs of Perceived Usefulness and Perceived Ease of Use from the Technology Acceptance Model, but also extend them into more contextually relevant educational dimensions.

In terms of Academic Writing Support, students reported that AI assisted them in generating ideas, organizing content, correcting grammar, refining sentence clarity, and building writing confidence. Additionally, the findings of this study suggest that AI is perceived not only as functional but also transformative in the context of academic writing for EFL learners. It offers pedagogical value as a reflective tool that supports student growth, enhances motivation, and reduces writing anxiety. This positions AI as a strategic support system that aligns with the needs of digital-native learners in secondary education.

While the study provides valuable insights, it is limited in scope. The sample involved only eight EFL students from a specific region and focused on two AI tools: ChatGPT and Grammarly. Future studies should expand the sample across different regions, educational levels, and include various AI tools such as QuillBot, Bing Copilot, or DeepL. This would help capture a broader spectrum of student experiences and allow for comparative analysis across platforms.

For teachers, these findings call for a pedagogical shift, integrating AI as a scaffolding tool rather than perceiving it as a threat. Teachers should use AI to support idea development, grammar feedback, and structured writing

while guiding students to use it ethically and critically. While for students, the study emphasizes using AI not as a shortcut but as a complement to their own thinking. Responsible use means revising AI outputs, learning from suggestions, and maintaining a personal voice in writing.

Ultimately, this study offers a novel perspective on AI integration in secondary EFL contexts, portraying it as a tool that not only facilitates learning but also nurtures autonomy and self-confidence. As AI continues to evolve, its role in shaping academic literacy should be guided by ethical considerations, critical reflection, and a learner-centered approach rooted in 21st-century pedagogy.

References

- Almerich, G., Orellana, N., Suárez-Rodríguez, J., & Díaz-García, I. (2021). Predicting the use of digital technologies in education: A study based on the Technology Acceptance Model. *Educational and Information Technologies*, 26(1), 393–416. <https://doi.org/10.1007/s10639-020-10213-1>
- Alzahrani, F. K. J., & Alotaibi, H. H. (2024). The impact of artificial intelligence on enhancing EFL writing skills among high school students. *Journal of Educational and Human Sciences*, (34), 226–240.
- Badan Pusat Statistik. (2023, February 28). *Statistik Indonesia 2023*. BPS. <https://www.bps.go.id/id/publication/2023/02/28/18018f9896f09f03580a614b/statistik-indonesia-2023.html>
- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101. <http://dx.doi.org/10.1191/1478088706qp063oa>
- Creswell, J. W., Poth, C. N. (2018). *Qualitative inquiry and research design choosing among five approaches (4th ed)*. SAGE Publications.
- Gao, Y., & Wang, L. (2023). Understanding student agency in AI-assisted learning environments: A qualitative study of high school learners. *Journal of Educational Computing Research*, 61(3), 633–655. <https://doi.org/10.1177/07356331231155092>
- Godwin-Jones, R. (2021). Artificial intelligence in language learning: The new revolution. *Language Learning & Technology*, 25(1), 1–13. <https://hdl.handle.net/10125/44714>
- Godwin-Jones, R. (2023). Digital literacy and critical awareness in the age of AI. *Language Learning & Technology*, 27(2), 1–7. <https://doi.org/10.10125/103947>
- Harmer, J. (2004). *How to teach writing*. Longman.
- Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign. https://curriculumredesign.org/wp-content/uploads/AI-in-Education-Promises-and-Implications_CRR.pdf
- Hyland, K. (2021). *Second language writing* (3rd ed.). Cambridge University Press.
- Kim, J. (2023). Teens and AI: Exploring students' attitudes toward the use of artificial intelligence in English writing. *Asia-Pacific Education Researcher*, 32(1), 45–58. <https://doi.org/10.1007/s40299-022-00687-6>
- Kim, J., & Lim, S. (2024). Students' perceptions of AI assistance in EFL writing: Benefit or dependency? *Journal of Applied Linguistics and Language Research*, 11(1), 22–39. <http://www.jallr.com/>
- Luckin, R., Holmes, W., & Griffiths, M. (2022). The pedagogy of AI: Developing responsible, critical, and ethical learners. *AI & Society*, 37, 123–134. <https://doi.org/10.1007/s00146-021-01212-x>
- Nguyen, H. H. B., Ngoc, H. H. B., & And, T. C. (2024). EFL students' perceptions and practices of using ChatGPT for developing English argumentative essay writing skills.

- European Journal of Alternative Education Studies*, 9(1).
<https://doi.org/10.46827/ejae.v9i1.5341>
- Nursanti, Y. (2016). Students' perception of teacher's bilingual language use in an english classroom. *Journal on English Education*, 4(1). <https://ejournal.upi.edu/index.php/L-E/article/view/4626>
- Perdana, I., Manullang, S., & Masri, F. (2021). Effectiveness of online Grammarly application in improving academic writing: review of experts experience. *International journal of social sciences*. 4. 122-130. <https://doi.org/10.31295/ijss.v4n1.1444>.
- Rahimi, M., Jafari, S., & Amini, M. (2023). ChatGPT and the blank page: University students' use of AI in academic writing. *Journal of Academic Writing*, 13(1), 1-17. <https://associationforacademicwriting.com>
- Rahimi, M., Zhang, L. J., & Shabani, M. B. (2023). Effects of ChatGPT on EFL students' essay writing performance and perceptions. *Journal of Computer Assisted Learning*. Advance online publication. <https://doi.org/10.1111/jcal.12808>
- Salama, M., Kamel, R., & Osman, H. (2024). Teachers' acceptance of AI in academic writing: A TAM-based study in secondary education. *Journal of Educational Technology Integration*, 10(1), 22-35.
- Saputra, R., & Hendriani, D. (2024). Exploring students' perceptions of QuillBot for academic writing enhancement. *TEFL Journal: Teaching English as a Foreign Language*, 12(2), 115-128.
- Shao, S. (2025). The role of AI tools on EFL students' motivation, self-efficacy, and anxiety: Through the lens of control-value theory. *Learning and Motivation*, 91, 102154. <https://doi.org/10.1016/j.lmot.2025.102154>
- Sitorus, D., Arifin, M., & Sari, L. (2025). The impact of rule-based AI applications on EFL students' grammar and pronunciation skills. *Asian Journal of English Education*, 17(1), 54-70.
- Tampubolon, A., Fitriani, Y., & Hartono, R. (2025). EFL students' responses to ChatGPT integration in English learning: A survey in secondary schools. *Language and Education Technology Journal*, 9(1), 30-45.
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences*, 39(2), 273-315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
- Wang, Y., & Lin, C. (2022). The role of perceived ease of use and usefulness in AI adoption for academic writing. *Computers and Composition*, 63, 102733. <https://doi.org/10.1016/j.compcom.2021.102733>
- Xie, H., Chu, H. C., Hwang, G. J., & Wang, C. Y. (2023). Trends and development in technology-enhanced adaptive/personalized learning: A review of 2009-2022 publications in selected SSCI journals. *Educational Technology & Society*, 26(1), 134-149. <https://www.j-ets.net>
- Yang, J., & Yu, Y. (2023). Exploring EFL learners' acceptance of AI writing tools using an extended TAM framework. *ReCALL*, 35(1), 89-107. <https://doi.org/10.1017/S0958344022000197>
- Zhao, Y., Wang, M., & Li, J. (2021). Personalized learning with AI: Benefits, risks, and research gaps. *Computers & Education: Artificial Intelligence*, 2, 100038. <https://doi.org/10.1016/j.caeai.2021.100038>
- Zheng, R., Lin, H., & Zhang, H. (2022). The impact of AI-powered writing assistants on students' academic writing performance. *Journal of Educational Technology & Society*, 25(3), 117-129. <https://www.j-ets.net>
- Zheng, Y., Li, J., & Tang, M. (2022). Evaluating the impact of AI writing tools on academic writing outcomes. *Computers & Education*, 184, 104528. <https://doi.org/10.1016/j.compedu.2022.104528>