



AI Writing Tools to Improve Paraphrasing Skills: A Systematic Literature Review From 2021 to 2025

Aris Budianto^{1*}, Mariana Ulfah Hoesny², Analyn D. Saavedra³

¹Universitas Sebelas Maret, Indonesia

²Politeknik Negeri Malang, Indonesia

³Western Mindanao State University, Philippines

*Correspondence to: aribudianto@staff.uns.ac.id

Abstract: The emergence of AI writing tools —knowledgeable writing assistants —is very helpful for students in improving their writing skills. However, no reviews or studies discussed using AI writing software to support students' paraphrasing skills. This systematic literature review (SLR) explores the applications of AI writing tools for improving paraphrasing skills, the aspects that can be improved, and the weaknesses to anticipate when using intelligent writing assistants. This study uses a Systematic Literature Review (SLR) that reviewed primary studies from journals indexed by Scopus, Elsevier, and ProQuest between 2021 and 2025. One thousand four hundred ninety-seven raw articles were found in the search. Thirty-three articles were removed due to duplication. Verification of titles and abstracts resulted in 98 articles. The final step was full-text screening. The final screening results determined 22 articles that met the criteria. The review's findings explain the strengths and weaknesses of each AI used for paraphrasing. The findings also provide suggestions for further research in improving paraphrasing skills.

Keywords: AI writing tools; ethical; intelligent writing assistants; paraphrase; paraphrasing skills

Recommended citation: Budianto, A., Hoesny, M. U., & Saavedra, A. D. (2026). AI Writing Tools to Improve Paraphrasing Skills: A Systematic Literature Review From 2021 to 2025 *Journal of Innovation in Educational and Cultural Research*, 7(1), 86-95.

INTRODUCTION

Generative AI is designed to create new content or outputs based on the input it receives and its learned understanding of the data it is trained on (Shah, 2023). Generative AI technology is developing and being adopted in school learning, especially in writing instruction. The use of intelligent writing assistants or Artificial Intelligence (AI)-powered writing tools in English as a foreign language (EFL) classrooms is increasing rapidly (Marzuki et al., 2023; Yeo, 2023). There are many terms in the use of AI in Writing skills, including AI writing assistant or AI-based writing assistant (Mohammad, 2024; Mohammad et al., 2024b; Švab et al., 2023; Tarp & Nomdedeu-Rull, 2024; Tripto et al., 2023), AI-powered writing assistant (Liu et al., 2024), AI writing tools (Baron, 2024; Kim et al., 2024; Marzuki et al., 2023) or general terms such as Artificial intelligence in Education (AIED) (Aini et al., 2024) are widely used.

Writing assistants are valuable tools that help writers improve their writing skills (Shi et al., 2023). Writing assistants can assist with writing by producing an initial draft of a scientific article and even suggesting possible titles (Alberth, 2023). Tools such as Grammarly and Microsoft Editor provided feedback that the writer could use to improve the writing. More advanced versions of these tools, such as Grammarly, Wordtune, and Quillbot, can even revise the author's text (Yeo, 2023). AI writing tools can help improve the quality of EFL student writing (Mohammad et al., 2023b). AI writing tools assist students with the structure and content of their writing, providing substantial support for EFL students aiming to enhance their writing skills (Mohammad et al., 2024b). However, they also acknowledge that using ChatGPT in academic writing presents several challenges. These included a potential decrease in the integrity of academic writing and critical thinking, an overreliance on the tool leading to a decline in creative abilities, the risk of plagiarism, and the generation of inaccurate or misleading content (Al-Sofi, 2024).

Plagiarism is the act of using someone else's words, ideas, or creations without giving proper acknowledgment. It can occur in various forms, including copying text directly from a source without an appropriate citation, paraphrasing someone else's work without giving credit, interleaving and/or interweaving multiple sources in the work without citation, or even providing proper citation but failing to change the wording sufficiently (Baron, 2024). Plagiarism, which means taking someone else's work, copying other people's work, and claiming it as one's own, is unethical and a violation of copyright, and also undermines academic integrity (Hammond et al., 2023; Hassanipour et al., 2024). The use of AI writing tools raises questions about academic integrity, including authorship and plagiarism (Yeo, 2023).

Understanding the awareness of academic integrity policies and becoming digitally literate in mastering AI tools is important. Academics are wary of unreliable sources and misinformation and improve critical and creative thinking by reading widely (Zeb et al., 2024). Preventing plagiarism is essential in academics, writing,

and creativity (Peters & Cadieux, 2019). They may also provide training and support for students and faculty and use multiple methods to spot and prevent plagiarism or academic dishonesty (Peters & Cadieux, 2019; Zeb et al., 2024). By understanding the importance of originality, academics can produce high-quality, integrity-based work and help mitigate such misconduct. Researchers often use online plagiarism checkers that scan the existing literature and generate reports on unintentional plagiarism (Hassanipour et al., 2024).

Regarding plagiarism, students must learn to paraphrase to avoid it in their assignments (Peters & Cadieux, 2019). Paraphrasing is re-expressing ideas or information from another source in one's own words without changing the original meaning (Roitblat, 2024). Paraphrasing skills training is essential to prevent plagiarism and improve writing quality. Writers must know how to paraphrase effectively by replacing words, changing sentence structure, changing word forms, summarizing or expanding sentences, and using their own sentences. AI-mediated tool incorporation has made it easier for EFL students to develop their writing abilities, including paraphrasing skills (Mohammad et al., 2024a).

This review will discuss the role of AI writing tools in improving paraphrasing skills. Many reviews have discussed the development of AI Writing Tools for identifying paraphrasing of writing with Deep Learning (Rudnichenko et al., 2021; Zhou et al., 2025). In addition, most reviews focus on the role of AI writing tools in learning and improving writing skills (Daniel et al., 2025; Ahmad et al., 2024). Or the Use of GenAI for literacy development in language classes (Chandel & Lim, 2025). However, no review specifically addresses improving paraphrasing skills. This study has collected and reviewed 22 articles after screening 1497 articles that discussed AI in writing. The result of this study is expected to provide insights into the use of AI to assist in writing skills. In addition, this study is expected to contribute by providing knowledge of AI to support paraphrasing skills. The contribution can be used to improve students' paraphrasing skills, thereby enhancing their writing skills. Better writing skills can benefit students, especially in fields that require writing.

METHODS

The method used in writing this article is a Systematic Literature Review (SLR). SLR is a study that examines a clearly defined question using systematic and explicit methods to classify, select, and critically appraise relevant research and collect and evaluate data from research included in the review and evaluate data from the studies included in the review (Moher et al., 2010; Page et al., 2021). SLR uses primary article sources as review sources. An SLR helps researchers update their research and becomes a starting point for a new study. An SLR can be used by healthcare providers, policymakers, and other decision-makers who would otherwise be confronted by overwhelming research on which to base their decisions (Page et al., 2021). To simplify the review process, this research uses Rayyan.ai. Rayyan is a free web and mobile app that helps expedite the initial screening of abstracts and titles through semi-automated processing while maintaining high usability (Ouzzani et al., 2016).

To limit the scope of this review and to guide the search for articles in the databases, three research questions were formulated. The research questions that will be answered in this article are: 1) What AI writing tools applications can be used to improve paraphrasing skills?; 2) How does GenAI improve paraphrasing skills?; 3) What are the limitations of GenAI in improving paraphrasing skills?

After the research questions were formulated, the next step was to determine the search keywords for the target database. Accurate keyword selection would improve search effectiveness. The databases used in SLR were Scopus, ScienceDirect, and ProQuest. The reason for choosing this database was that the campus subscribes to the three indexing databases. The keywords used in this search are as follows: TITLE-ABS-KEY ("artificial intelligence" OR AI OR "generative AI" OR "AI writing tools" OR "AI-assisted writing" OR AI-based writing assistants OR Chatbot OR Quillbot OR Grammarly OR AI-generated OR Grammarly OR Wordtune) AND ("paraphrase task" OR "paraphrase skills" OR paraphrase). The search results on the Scopus database yielded 1312 articles, the ScienceDirect search yielded 85 articles, and the ProQuest search yielded 100 articles. The total search yielded 1497 articles. The next step is to check whether the 1497 articles contained duplicate data. The examination results showed that 33 articles were removed due to duplicate submissions. After subtracting the duplicated articles, 1464 articles would be included in the following review. The SLR review steps are detailed in Figure 1.

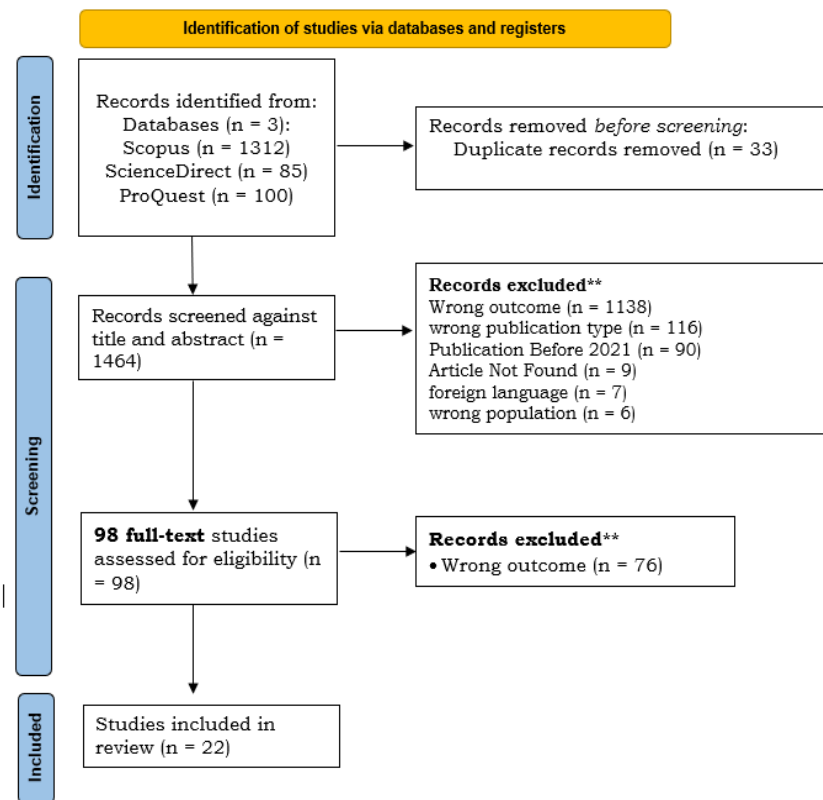


Figure 1. PRISMA Framework for SLR Review

Of the 1464 articles, most of them came from International Conferences (857 articles, 58.6%), 554 (37.8%) from Journal Articles, and 53 (3.6%) from Book Chapters. The most searched results came from Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) with 129 articles. Table 1 presents data on the 10 most popular article sources from keyword searches.

Table 1. Top 10 articles sources

Source	Number of Articles
Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	129
IJCAI International Joint Conference on Artificial Intelligence	55
Communications in Computer and Information Science	37
CEUR Workshop Proceedings	28
ACM International Conference Proceeding Series	23
Proceedings of the Annual Meeting of the Association for Computational Linguistics	23
AAAI 2020 - 34th AAAI Conference on Artificial Intelligence	22
35th AAAI Conference on Artificial Intelligence, AAAI 2021	19
Proceedings of the 37th AAAI Conference on Artificial Intelligence, AAAI 2023	18
Journal of Artificial Intelligence Research	18

The analysis also identified most of the articles with the following topics or research fields: Artificial intelligence, Chatbots, Education, Language, Generative artificial intelligence, Machine learning, Natural language processing, ChatGPT, and Large language models. The next step is to filter 1464 articles based on their titles and abstracts. To facilitate the screening process, we developed some inclusion and exclusion criteria. The screening results are divided into those meeting and not meeting the inclusion and exclusion criteria. The following are the inclusion criteria. First, the article must discuss the use of AI writing tools to develop students' paraphrasing skills. Secondly, the article explores how Generative AI improves paraphrasing skills. The last articles discuss the limitations and drawbacks of Generative AI for improving paraphrasing skills.

In addition, exclusion criteria are applied to ensure the selected articles in this study are reliable. First of all, 1138 articles were excluded because they did not discuss the use of the tools; instead, they explained the development of writing tools using AI. Additionally, many articles discussed the use of AI writing tools, but not specifically on improving paraphrasing capabilities. Secondly, seven articles were excluded because they were not in English. Next, 116 articles presented literature reviews, whereas this study does not focus on such

articles. Then, nine articles were excluded because they were not found. Ninety articles were excluded since they were published before 2021. Meanwhile, this study focuses on publications after 2022, as the rapid development of generative AI began then (Perkins, 2023). Finally, six articles were excluded because the objects were not in the field of Education. Based on the title and abstract screening results, 1363 articles were excluded. The total number of remaining articles is 98, which will enter the full-text screening process.

Ninety-eight articles were reviewed based on the content of the article. The same criteria used for title and abstract screening were applied to facilitate the screening process. The results of the full-text screening are as follows. Of the 98 articles, 76 were excluded because of incorrect outcomes. Most of the articles obtained are about developing writing tools using AI. The screening identified 22 articles that were later used as review material in this article. The articles reviewed were few. Mostly discussed the use of AI Writing tools to improve writing skills, but none touched on improving paraphrasing skills. Figure 2 shows the details of the 22 articles, 8 of which, or 36%, were taken from 2024, 12 of which, or 55%, were taken from 2023, and 2 of which, or 9%, were taken from 2022. Of the 22 articles, all were from journals and none from proceedings. The Journal of Theoretical and Applied Information Technology had the most significant number of articles, with 2. In addition, Taj Muhammad from Najran University contributed the most.

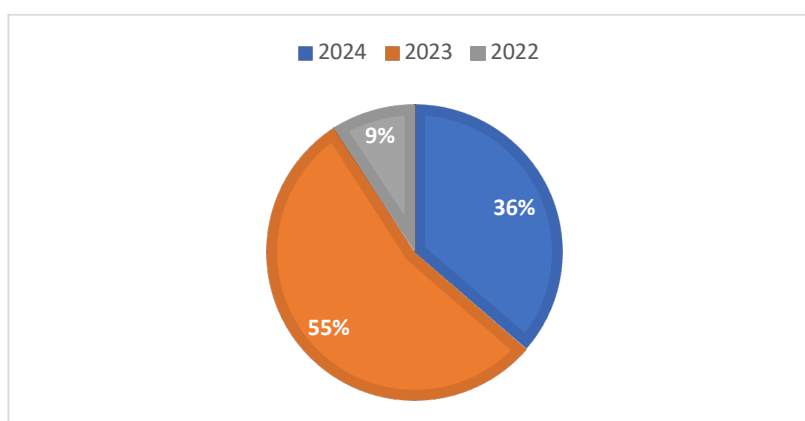


Figure 2. Number of Articles Per Year

RESULT AND DISCUSSION

This section explains the results obtained from the Systematic Literature Review. The article will explain the data sources and suggest further research based on the results of the research review. The answers to the Research Questions (RQs) were obtained through in-depth analysis of selected articles. This section explains the use of Generative AI applications in writing instruction, especially to improve paraphrasing skills. Table 2 presents AI Writing tools to enhance paraphrasing skills.

Table 2. AI Writing Tools to Enhance Paraphrasing Skills

Tools	Number	Article
QuilBot	5	(Marzuki et al., 2023; Mohammad, 2024; Mohammad et al., 2023a, 2023b; Mohammad et al., 2024a)
Wordtune	5	(Aini et al., 2024; Al-Sofi, 2024; Marzuki et al., 2023; Perkins, 2023; Yeo, 2023)
Grammarly	8	(Aini et al., 2024; Al-Sofi, 2024; Marzuki et al., 2023; Mohammad et al., 2023a, 2023b; Perkins, 2023; Yan, 2023; Yeo, 2023)
ChatGPT	12	(Aini et al., 2024; Al-Sofi, 2024; Alafnan et al., 2023; Alberth, 2023; Barker et al., 2024; Barrett & Pack, 2023; Črček & Patekar, 2023; Cronjé, 2023; Marzuki et al., 2023; Mohammad et al., 2024b; Perkins, 2023; Yan, 2023)
Google Translate	2	(Aini et al., 2024; Yan, 2023)
Jenni	3	(Aini et al., 2024; Marzuki et al., 2023; Yeo, 2023)
Paperpal	3	(Aini et al., 2024; Al-Sofi, 2024; Marzuki et al., 2023)
copy.ai	2	(Aini et al., 2024; Marzuki et al., 2023)
MyEssayWriter	1	(Marzuki et al., 2023)
Prepotseo	4	(Mohammad, 2024; Mohammad et al., 2023a; Mohammad et al., 2024b; Mohammad et al., 2024a)
Paraphrasing-Tool	3	(Mohammad, 2024; Mohammad et al., 2023a; Mohammad et al., 2024a)

Tools	Number	Article
Spinbot	4	(Mohammad, 2024; Mohammad et al., 2023a; Mohammad et al., 2024b; Mohammad et al., 2024a)
Gemini	1	(Aini et al., 2024)
Humata	1	(Aini et al., 2024)
Jasper.ai	1	(Aini et al., 2024)
Jetpack	1	(Aini et al., 2024)
Perplexity	1	(Aini et al., 2024)
Scite	1	(Aini et al., 2024)
Write Sonic	1	(Aini et al., 2024)

The review results show that most AI Writing tools are used in writing learning. Twelve articles mention using ChatGPT to improve paraphrasing skills. The next AI Writing tool technology is Grammarly. Grammarly is mentioned in 8 articles. QuillBot and Wordtune are mentioned in 5 articles. Generating ideas can be challenging in writing; therefore, some students experience 'writing block,' which is difficulty writing the first few words of an article or other writing assignment (Alberth, 2023). Students can use AI-assisted writing tools such as ChatGPT, Jenni.ai, or other applications as scaffolding (Mohammad et al., 2024a). ChatGPT is an excellent help as a preliminary step in writing assignments when one is unsure how to word something and there isn't sufficient guidance or assistance (Črček & Patekar, 2023). ChatGPT can be used as a preliminary step to write assignments. The Chatbot can assist students in generating ideas and refining initial ideas. ChatGPT shows students various ways to express their thoughts more effectively (Alafnan et al., 2023; Marzuki et al., 2023). In addition to ChatGPT, Jenni AI assists students in brainstorming, linking ideas, and organizing topic ideas for writing (Marzuki et al., 2023). This positive approach helped them learn complex writing concepts (Mohammad et al., 2024a).

Besides helping students generate ideas, the use of AI Writing tools can improve students' grammar accuracy (Tambunan et al., 2022). Grammar skills can be improved through feedback from AI writing assistant applications such as Grammarly, QuillBot, and Wordtune. Students perceive that QuillBot helps them learn complex grammatical structures in addition to paraphrasing (Mohammad, 2024; Mohammad et al., 2023b). QuillBot is valuable in assisting students with the structure, syntax, and content of their writing, providing substantial support for EFL students aiming to enhance their writing skills (Mohammad et al., 2024a; Yan, 2023). Grammarly feedback increases writing accuracy and improves grammar. Grammarly enables students to analyze language more deeply (Tambunan et al., 2022). Grammarly helps to correct vocabulary and sentence structure. Thus, it produces better quality through its stable, error-free traits (Perkins, 2023; Yeo, 2023). Wordtune helps students improve sentence structure and increase coherence (Marzuki et al., 2023). Students learn from texts generated by ChatGPT that have a good structure. A text begins with an opening paragraph, the main reading, and ends with a conclusion. The text produced is complete, formal, consistent, and reader-friendly (Yeo, 2023). AI tools are also beneficial for improving grammar, particularly for students and academics who are not native English speakers (Baron, 2024).

There are six obstacles in language learning, including grammar, punctuation, contextual spelling, sentence structure, style, and vocabulary enhancement (Tambunan et al., 2022). Thus, vocabulary enhancement is one of the difficulties EFL students face. They have difficulty rewriting readings in their language. The number of words they master becomes a constraint on learning to write (Mohammad, 2024). With the help of QuillBot, students practice paraphrasing using different vocabulary, grammar, and writing styles (Mohammad et al., 2024b). Students use QuillBot to predict synonyms for words in texts (Mohammad et al., 2023b). Students significantly improved their command of synonyms, as QuillBot provided many options (Mohammad et al., 2023b). Quillbot enhances vocabulary by providing several easy word choices (Mohammad et al., 2023a; Tambunan et al., 2022). This scaffolding will improve the quality of their writing and encourage students to incorporate new vocabulary into their work (Marzuki et al., 2023). QuillBot offers many easy synonyms for difficult words (Mohammad et al., 2024b). The students were able to post-edit the generated texts to improve word choice (Yan, 2023). In addition, ChatGPT helps students gain deeper insights, perspectives, and new abilities about the field and its relationship to the world (Cronjé, 2023). Genuinely, there has been a noticeable improvement in students' ability to logically connect their ideas using transition words and phrases after the adoption of AI writing tools (Marzuki et al., 2023).

Writing skill is also related to affective factors, including self-confidence. Writing anxiety is a significant psychological issue that arises when individuals undertake specific writing tasks, resulting in unfavorable emotional experiences characterized by fear, tension, and avoidance (Shen et al., 2024). It is commonly believed that L2 learners feel most anxious when speaking and writing. L2 writing anxiety varies depending on task complexity. Argumentative writing was believed to impose higher reasoning demands than narrative writing (An & Li, 2024). In conjunction with this, anxiety increased and negatively impacted the L2 learning process and outcome (An & Li, 2024).

Several research findings suggest that using AI Writing tools, such as Quillbot, positively impacts confidence, motivation, and perseverance during writing (Mohammad, 2024; Mohammad et al., 2023a; Yan, 2023). It fosters a supportive and confidence-building learning environment. ChatGPT provides students with individualized support and breaks complex problems into smaller tasks, which increases students' confidence and reduces the risk of cheating (Al-Sofi, 2024). Students' feedback from the AI Writing tools app can boost their confidence and competence (Khoo & Kang, 2022). Furthermore, the students perceived that using QuillBot enhanced their confidence levels, as they felt more adept at paraphrasing texts than they had been previously (Mohammad et al., 2023b).

Mohammad et al. (2023b) provided similar findings, stating that using QuillBot can positively improve students' writing attitudes by reducing their anxiety when writing and increasing their confidence in the quality of their writing. QuillBot removes the fear of making mistakes. Additionally, teachers can assist students in writing their own sentences and help students overcome anxiety when doing academic writing (Khoo & Kang, 2022). Besides enhancing confidence, AI-based written feedback has had positive effects on students' motivation and self-efficacy in L2 writing (Yan, 2023). Szlachta (2023) reported that feedback is essential to improve students' writing skills, especially when delivered with the help of technology. Teachers' feedback is significant as well; however, it is limited by time and place. Feedback from AI Writing tools such as Grammarly, ChatGPT, and Wordtune can improve students' paraphrasing skills (Tambunan et al., 2022). QuillBot helps students paraphrase complex grammatical structures. Its success can be attributed to students' interest and motivation, making it easier to understand complex topics (Mohammad, 2024). AI Writing tools generally increase motivation and enthusiasm for writing.

The results of the study also showed the benefits of using AI writing tools, such as obtaining fast, primarily accurate responses, improving thinking skills, receiving assistance with debugging, and positively impacting self-confidence (Črček & Patekar, 2023). Students expressed enhanced enthusiasm, engagement, productivity, and brilliance in developing their writing abilities, particularly their paraphrasing skills (Mohammad et al., 2024b). AI technology, such as QuillBot drive, has been shown to significantly enhance students' positive enthusiasm, particularly in paraphrasing skills (Mohammad et al., 2023b; Mohammad et al., 2024b). QuillBot makes writing class very interesting (Mohammad et al., 2024b).

The respondents reported a generally positive view of ChatGPT, valuing its ability to enhance the entire writing process, from initial brainstorming to final proofreading and editing (Al-Sofi, 2024; Črček & Patekar, 2023). ChatGPT positively influences their academic characteristics and motivates them to engage more effectively in metacognitive learning (Al-Sofi, 2024). Students demonstrated enhanced enthusiasm, engagement, productivity, and brilliance in developing their writing abilities, particularly their paraphrasing skills (Mohammad et al., 2024b). Another impact of AI on paraphrasing skills is a boost to thinking skills. As stated by Črček and Patekar (2023), ChatGPT can improve thinking skills. Students find this tool useful and practical to use as an aid in completing assignments. ChatGPT can obtain information and increase awareness of developing critical thinking skills (Aini et al., 2024). This is in line with the study by Khoo and Kang (2022), which found no statistical difference in academic writing skill scores across tutors; however, there was a significant tutor effect on critical thinking skill scores.

Based on the self-evaluation, students were generally satisfied with the quality of the generated text in terms of language accuracy, syntactic coherence, grammatical correctness, language styles, and compliance with academic requirements (Yan, 2023). These AI tools served as supplementary teaching resources, aiding in grammar checking, paraphrasing, plagiarism detection, content generation, and offering suggestions to enhance the clarity and coherence of students' writing (Marzuki et al., 2023). AI writing tools helped suggest better phrasing, refine sentence structure, remove redundancies, and enhance coherence, thereby improving students' confidence in their writing abilities (Marzuki et al., 2023). ChatGPT may help improve the quality of the paper by commenting on its grammar, cohesion, coherence, mechanics, or even ideas (Alberth, 2023). Marzuki et al. (2023) noted that while AI tools can improve certain writing skills, they may not be as effective at addressing higher-order writing elements, such as argument structure and coherence.

At the university level, where students are expected to be self-regulated learners, AI Writing tools help students make choices and act on them in ways that can make a difference in their lives (Khoo & Kang, 2022). A study found that technological tools positively impact students' self-regulated learning strategies in academic writing by helping them set goals, monitor progress, and revise based on feedback (Mohammad et al., 2024a).

Quillbot is a time-saving tool that can help improve the clarity of text (Mohammad et al., 2023b). It utilizes advanced algorithms to identify common errors in grammar, punctuation, and syntax and provides suggestions to improve clarity and style. They also offer unique capabilities, such as paraphrasing and refining sentences for enhanced effectiveness (Marzuki et al., 2023). Grammarly's AI analyzes the user's text and provides real-time suggestions to enhance grammar, spelling, punctuation, clarity, engagement, and delivery. The AI tools served as a supplementary teaching resource, aiding in grammar checking, paraphrasing, plagiarism detection, content generation, and suggesting ways to enhance the clarity and coherence of students' writing. Quillbot is a time-saving tool that can assist in improving the text's clarity and finding appropriate or relevant

synonyms (Mohammad et al., 2023a; Mohammad et al., 2024a)

Utilizing the paraphrasing tool, students can improve their understanding of the context of a text, learn new vocabulary, learn new terminology, better comprehend, and increase the overall quality of their writing (Mohammad et al., 2023a; Mohammad, 2024; Mohammad et al., 2023b; Mohammad et al., 2024b). Students' assessments of the overall efficacy of writing tools are positive (Mohammad, 2024). Nazari et al. (2021) confirmed the positive effect of AI-based written feedback on students' motivation and self-efficacy in L2 writing (Yan, 2023). Semi-structured interviews further indicated students' optimism about the tool's efficacy in improving paraphrasing skills (Mohammad et al., 2024b). Teachers' assessments of QuillBot's efficacy in helping EFL students improve their paraphrasing abilities were quite positive (Mohammad et al., 2024a).

To sum up, the use of generative AI to support writing skills, specifically paraphrasing, is found to be positive. The tools mentioned previously have proven helpful to students in paraphrasing. It has been stated previously that generative AI helps students in both language and affective aspects. Thus, the tools presented in this research can serve as solutions for students or for teaching paraphrasing skills. Despite anxiety about students' dependence on these tools, it is beneficial if teachers guide students so that these tools can support learning and improve language skills, especially writing skills. As one of the difficult language skills, writing does not deal only with putting words into text. It also connects with critical thinking, various language aspects, and affective factors. The tools presented in this study can empower students to improve their writing, particularly their paraphrasing skills.

The first issue regarding the limitations of GenAI concerns ethics and academic integrity. Many students and academics remain unaware of ethics and academic dishonesty. Thus, many researchers are interested in investigating the implications of 'AI-powered writing tools' on academic integrity in language classes or exams (Aini et al., 2024; Yan, 2023). Since the launch of ChatGPT3, teachers have reacted in various ways, including concerns about academic dishonesty and plagiarism (Aini et al., 2024; Al-Sofi, 2024).

One student said that ChatGPT did not harm anyone or break any dishonesty laws or policies. In the same vein, another student noted that if its use was considered dishonest, the university should regulate it (Črček & Patekar, 2023). More students also commented on the ethical use of ChatGPT. A study investigating the writer's intentions in plagiarism revealed that plagiarism was often intertwined with academic dishonesty (Yan, 2023). When ChatGPT generates text, authors need to paraphrase and cite the source. They should not copy-paste the text as is, and failure to do so should be viewed as academic dishonesty and plagiarism (Alberth, 2023). Guidelines on ChatGPT use are needed, and academic integrity should be promoted among students and teachers to ensure ethical, original use of ChatGPT in an academic context (Al-Sofi, 2024; Črček & Patekar, 2023).

The next concern regarding the use of GenAI is related to overreliance. Students' irresponsible use of ChatGPT, particularly overreliance on it as the sole tool for writing projects and text-based assignments, can lead to academic dishonesty and hinder the development of essential writing skills. This overreliance on ChatGPT might also contribute to a "lack of emotional intelligence" in writing, as students may not fully develop their ability to convey emotions effectively (Al-Sofi, 2024).

Additionally, there is a cost limitation. Not all AI-writing tools are free; many require payment based on the services used. The cost of these tools raises concerns about equity and access. While most offer free versions (Mohammad et al., 2023a), the premium version unlocks many additional affordances, such as auto-citation and plagiarism checks, that can enhance the final written output and prevent cheating detection, thus advantaging the privileged and potentially widening the educational achievement gap (Yeo, 2023). Wordtune accurately captured the meaning of the original text. The paid version of this tool allows authors to select the tone (casual or formal), shorten or expand the text, and rewrite whole paragraphs rather than one sentence at a time (Yeo, 2023). To get more features, some students are willing to pay for QuillBot premium (Mohammad et al., 2023a; Perkins, 2023).

The following constraint applies to an internet connection. Using the Internet in the teaching and learning process can encourage students to become independent learners and enable teachers to act as facilitators (Tambunan et al., 2022). AI—Grammarly has been integrated into Microsoft Word, making it easier for users to check for errors in English structure using computer records connected to the Internet (Tambunan et al., 2022). The absence of supporting resources, such as computers, laptops, and the Internet, can affect learning outcomes when using AI-writing tools (Mohammad et al., 2024a). ChatGPT instantly generates entire essays. Authoring tools such as ChatGPT are prevalent and affordable (or even free) for anyone with an internet connection (Barrett & Pack, 2023).

Finally, the use of GenAI is also linked to the ability to think critically. Using AI writing tools could lead to diminished critical thinking skills if students become overly dependent on them (Marzuki et al., 2023). This is consistent with Akastangga et al. (2023), who reported the results of their study on the use of ChatGPT and critical thinking skills. The study suggested that the use of ChatGPT must be balanced, as reliance on ChatGPT can reduce critical thinking. The teachers also expressed concerns about the lack of creativity and critical thinking. The teacher thought that the student's use of ChatGPT leads to "less innovation and a lack of support

for creative thinking." The teacher disclosed that the students "simply copy and paste. They do not know how to paraphrase the generated ideas." (Al-Sofi, 2024). Specifically, students and teachers raised primary concerns, such as the potential for plagiarism in ChatGPT-generated texts, excessive reliance on ChatGPT, and a lack of creativity and critical thinking skills (Al-Sofi, 2024). This part discusses the limitations of generative AI in supporting paraphrasing skills. Previously, the advantages of generative AI for paraphrasing were revealed; however, the tools also have disadvantages. The issues of ethics and academic integrity due to the use and overdependence on these tools cannot be avoided. Therefore, it was stated previously that teachers' guidance is strictly required. In addition, rules related to the use of generative AI in scientific and academic writing must be developed. This is done to avoid violating the use of generative AI.

CONCLUSION

This systematic literature review from 2021 to 2025 shows that most AI Writing tools are used in writing learning. To sum up, the use of generative AI to support writing skills, specifically paraphrasing, is found to be positive. It also connects with critical thinking, various language aspects, and affective factors. The tools presented in this study, such as QuillBot, Grammarly, ChatGPT, and Wordtune, can empower students to improve their writing, particularly their paraphrasing skills. However, the tools also have disadvantages. The issues of ethics and academic integrity due to the use and overdependence on these tools cannot be avoided. Therefore, it was stated previously that teachers' guidance is strictly required. In addition, rules related to the use of generative AI in scientific and academic writing must be developed.

ACKNOWLEDGEMENTS

The authors are grateful to the Ministry of Education and Culture, as well as the Institute for Research and Community Service, Universitas Sebelas Maret, for the financial support provided to this study, under contract number 371/UN27.22/PT.01.03/2025.

REFERENCES

- Ahmad, D., Latif, I., Arafah, B., & Suryadi, R. (2024). Defining The Role Of Artificial Intelligence In Improving English Writing Skills Among Indonesian Students. *Journal of Language Teaching and Research*, 15(2).
- Aini, N., Kurniarahman, I., Widiati, U., Cahyono, B. Y., & Basthomi, Y. (2024). Indonesian University Students' Perspectives On Integrating AIED Into English Language Learning. *Issues in Educational Research*, 34(3).
- Al-Sofi, B. B. M. A. (2024). Artificial Intelligence-Powered Tools And Academic Writing: To Use Or Not To Use ChatGPT. *Saudi Journal of Language Studies*, 4(3), 145–161.
- Alafnan, M. A., Dishari, S., Jovic, M., & Lomidze, K. (2023). ChatGPT As An Educational Tool: Opportunities, Challenges, And Recommendations For Communication, Business Writing, And Composition Courses. *Journal of Artificial Intelligence and Technology*, 3(2), 60–68.
- Alberth, U. (2023). The Use Of ChatGPT In Academic Writing: A Blessing Or A Curse In Disguise?. *TEFLIN Journal-a Publication on the Teaching and Learning of English*, 34, 337-52.
- An, H., & Li, S. (2024). Task-Specific Writing Anxiety And Self-Efficacy Are Separate From General L2 Writing Anxiety And Self-Efficacy And They Have Differential Associations With The Effects Of Written Corrective Feedback In Pre-Task And Within-Task Planning. *System*, 126(May), 103480.
- Barker, L. A., Moore, J. D., & Cook, H. A. (2024). Generative Artificial Intelligence As A Tool For Teaching Communication In Nutrition And Dietetics Education—A Novel Education Innovation. *Nutrients*, 16(7).
- Baron, P. (2024). Are AI Detection And Plagiarism Similarity Scores Worthwhile In The Age Of ChatGPT And Other Generative AI? *Scholarship of Teaching and Learning in the South*, 8(2), 151–179.
- Barrett, A., & Pack, A. (2023). Not Quite Eye To AI: Student And Teacher Perspectives On The Use Of Generative Artificial Intelligence In The Writing Process. *International Journal of Educational Technology in Higher Education*, 20(1), 59.
- Chandel, P., & Lim, F. V. (2025). Generative AI And Literacy Development In The Language Classroom: A Systematic Review Of Literature. *Ubiquitous Learning*, 18(2), 31–49.
- Črček, N., & Patekar, J. (2023). Writing With AI: University Students' Use Of ChatGPT. *Journal of Language and Education*, 9(4), 128–138.
- Cronjé, J. (2023). Exploring The Role Of ChatGPT As A Peer Coach For Developing Research Proposals: Feedback Quality, Prompts, And Student Reflection. *Electronic Journal of e-Learning*, 22(2), 1-15.

- Daniel, K., Msambwa, M. M., & Wen, Z. (2025). Can Generative AI Revolutionise Academic Skills Development In Higher Education? A Systematic Literature Review. *European Journal of Education*, 60(1).
- Hammond, K. M., Lucas, P., Hassouna, A., & Brown, S. (2023). A Wolf In Sheep's Clothing? Critical Discourse Analysis Of Five Online Automated Paraphrasing Sites. *Journal of University Teaching and Learning Practice*, 20(7).
- Hassanipour, S., Nayak, S., Bozorgi, A., Keivanlou, M. H., Dave, T., Alotaibi, A., ... & Amini-Salehi, E. (2024). The Ability Of ChatGPT In Paraphrasing Texts And Reducing Plagiarism: A Descriptive Analysis. *JMIR Medical Education*, 10(1), e53308.
- Khoo, E., & Kang, S. (2022). Proactive Learner Empowerment: Towards A Transformative Academic Integrity Approach For English Language Learners. *International Journal for Educational Integrity*, 18(1).
- Kim, Y., Le, T. L. V., Kim, D., Lee, M., & Lee, S. J. (2024). How Non-Native English Speakers Use, Assess, And Select AI-Generated Paraphrases With Information Aids. *CoRR*.
- Liu, J. Q., Hui, K. T., Al Zoubi, F., Zhou, Z. Z., Samartzis, D., Yu, C. C., ... & Wong, A. Y. (2024). The Great Detectives: Humans Versus AI Detectors In Catching Large Language Model-Generated Medical Writing. *International Journal for Educational Integrity*, 20(1), 8.
- Marzuki, M., Widiati, U., Rusdin, D., Darwin, D., & Indrawati, I. (2023). The Impact Of AI Writing Tools On The Content And Organization Of Students' Writing: EFL Teachers' Perspective. *Cogent Education*, 10(2).
- Mohammad, T. (2024). Challenging Traditional EFL Writing Classroom Using AI Mediated Tool: A Paradigm Shift. *World Journal of English Language*, 14(2), 211–219.
- Mohammad, T., Alzubi, A. A. F., Nazim, M., & Khan, S. I. (2023a). Assessing The Effectiveness Of QuillBot-Mediated Instruction In Enhancing EFL Students' Paraphrasing Skills. *Journal of Theoretical and Applied Information Technology*, 101(24), 8349-8357.
- Mohammad, T., Alzubi, A. A. F., Nazim, M., & Khan, S. I. (2023b). EFL Paraphrasing Skills With QuillBot: Unveiling Students' Enthusiasm And Insights. *Journal of Pedagogical Research*, 7(5), 359-373.
- Mohammad, T., Alzubi, A. A. F., Nazim, M., & Khan, S. I. (2024a). Evaluating The Effectiveness Of Quillbot In Improving Students' Paraphrasing Skills: Teachers' Voices. *Journal of Theoretical and Applied Information Technology*, 102(6), 2556–2567.
- Mohammad, T., Alzubi, A. A. F., Nazim, M., & Khan, S. I. (2024b). Paraphrasing Prowess: Unveiling The Insights Of EFL Students And Teachers On QuillBot Mastery. *International Journal of Information and Education Technology*, 14(5), 642–650.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2010). Preferred Reporting Items For Systematic Reviews And Meta-Analyses: The PRISMA Statement. *International Journal of Surgery*, 8(5), 336–341.
- Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan—A Web And Mobile App For Systematic Reviews. *Systematic Reviews*, 5(1), 1–10.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 Statement: An Updated Guideline For Reporting Systematic Reviews. *PLoS Medicine*, 18(3), e1003583.
- Perkins, M. (2023). Academic Integrity Considerations Of AI Large Language Models In The Post-Pandemic Era: ChatGPT And Beyond. *Journal of University Teaching and Learning Practice*, 20(2), 1-24.
- Peters, M., & Cadieux, A. (2019). Are Canadian Professors Teaching The Skills And Knowledge Students Need To Prevent Plagiarism? *International Journal for Educational Integrity*, 15(1).
- Roitblat, H. L. (2024). An Essay Concerning Machine Understanding. *arXiv preprint arXiv:2405.01840*.
- Rudnichenko, N., Vychuzhanin, V., Shibaeva, N., Antoshchuk, S., & Petrov, I. (2021, March). Intellectual Information System For Supporting Text Data Rephrasing Processes Based On Deep Learning. *IntelliTIS*.
- Shah, P. (2023). *AI And The Future Of Education: Teaching In The Age Of Artificial Intelligence*. John Wiley & Sons.
- Shen, X., Ismail, L., Jeyaraj, J. J., & Teng, M. F. (2024). Metacognitive Strategies, Writing Self-Efficacy And Writing Anxiety In Different Learning Modes: A Two-Wave Longitudinal Model. *System*, 126(August 2023), 103485.

- Shi, S., Zhao, E., Bi, W., Cai, D., Cui, L., Huang, X., ... & Li, P. (2023, July). Effidit: An Assistant For Improving Writing Efficiency. *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (Volume 3: System Demonstrations)*, 508-515.
- Švab, I., Klemenc-Ketiš, Z., & Zupanič, S. (2023). New Challenges In Scientific Publications: Referencing, Artificial Intelligence And ChatGPT. *Zdr Varst*, 62(3), 109–112.
- Tambunan, A. R. S., Andayani, W., Sari, W. S., & Lubis, F. K. (2022). Investigating EFL Students' Linguistic Problems Using Grammarly As Automated Writing Evaluation Feedback. *Indonesian Journal of Applied Linguistics*, 12(1), 16–27.
- Tarp, S., & Nomdedeu-Rull, A. (2024). Who Has The Last Word? Lessons From Using ChatGPT To Develop An AI-Based Spanish Writing Assistant. *CIRCULO de Linguistica Aplicada a la Comunicacion*, 97.
- Tripto, N. I., Venkatraman, S., Macko, D., Moro, R., Srba, I., Uchendu, A., ... & Lee, D. (2023). A Ship Of Theseus: Curious Cases Of Paraphrasing In LLM-Generated Texts. *arXiv preprint arXiv:2311.08374*.
- Yan, D. (2023). Impact Of ChatGPT On Learners In A L2 Writing Practicum: An Exploratory Investigation. *Education and Information Technologies*, 28(11), 13943–13967.
- Yeo, M. A. (2023). Academic Integrity In The Age Of Artificial Intelligence (AI) Authoring Apps. *TESOL Journal*, 14(3).
- Zeb, A., Ullah, R., & Karim, R. (2024). Exploring The Role Of ChatGPT In Higher Education: Opportunities, Challenges And Ethical Considerations. *International Journal of Information and Learning Technology*, 41(1), 99–111.
- Zhou, C., Qiu, C., Liang, L., & Acuna, D. E. (2025). Paraphrase Identification With Deep Learning: A Review Of Datasets And Methods. *IEEE Access*.