



## The Assistance of Quillbot in Powering Academic Writing for Higher Students: A Systematic Literature Review

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### Abstract

*QuillBot is one of the AI tools that fosters students in developing their academic skills by focusing on clarity, coherence, and accuracy. Therefore, this study aims to explore the assistance of QuillBot in academic writing among higher education students. The researcher adopted the SLR (Systematic Literature Review) methodology. This method employs eight steps, from developing research questions to resulting interpretations. Those steps are conducted to determine whether the previous articles are appropriate and eligible. Ten articles were found that required the inclusion of the criteria. The articles were found in reputable resources such as Google Scholar, ResearchGate, ScienceDirect, and Taylor & Francis. The findings revealed that QuillBot assists the students in creating minimal errors in writing by discovering grammatical errors, paraphrasing sentences for writing evaluation, avoiding plagiarism, and encouraging students' motivation. Overall, the tool facilitates the students' development of their academic writing ability. Therefore, QuillBot assists the students in powering their writing ability and minimizing their anxiety toward academic writing.*

## **INTRODUCTION**

Academic writing is essential in higher education, as it affects knowledge generation, dissemination, and application (Latifah et al., 2024). In higher education, the students are expected to share their ideas in written form. Most universities require a thesis in the form of academic writing as a graduate requirement. Therefore, the lecturers force the students to master their knowledge in writing. However, composing and generating high-quality academic writing can be difficult for students and educators. Various factors influence the difficulties of academic writing. The advanced academic writing requirement includes supporting theories and concepts, supporting previous research points of view, summarizing, paraphrasing, and citing (Chanpradit et al., 2024). Those sophisticated demands cause the students to get stressed and confused since they need the ability and knowledge to produce systematic writing. Since they lack writing capability, students often use inappropriate grammar and punctuation and utilize monotonous vocabulary. Besides, the students' experience backgrounds, unfamiliarity with academic English, and the language used, are also challenging (Syahnaz & Fithriani, 2023).

Academic writing provides several basic conventions, including objectivity, using formal language, simplicity, clarity, conciseness, and anti-plagiarism (Chauhan, 2022). In academic writing, students or researchers can employ previous research viewpoints, including citation and paraphrase, as anti-plagiarism measures (Chanpradit et al., 2024). As most students make mistakes in paraphrasing several words cited, plagiarism becomes a concern for every student, and the failure to change appropriately can result in plagiarism. In addition, the other vital components are high-quality writing and critical thinking (Kurniati & Fithriani, 2022). However, non-native students need more academic vocabulary. However, they lack academic vocabulary, have less ability to propose ideas, and have less capability to use complicated grammatical structures. Therefore, those factors will promote unsuccessful academic writing for the students.

The advancement of technology emerges, assisting higher-level students in composing academic writing. AI can be a tool that empowers and helps students to create excellent academic writing. Nowadays, AI is necessary to address students' difficulties and challenges in creating excellent academic writing (Raheem et al., 2023). QuillBot is one of the AI writing tools that is designed to assist students in evaluating their writing, such as grammar checking, paraphrasing, summarizing, translation, plagiarism checking, and an automatic citation generator (Amanda et al., 2023). QuillBot aims to paraphrase the sentence structure and change several related words while preserving the main content (Fitria, 2022). Thus, the writing is more academic since it provides features that portray word similarity and summarize the text. Therefore, most writers and researchers are taking its feasible benefits to develop writing efficiency and quality.

QuillBot offers two specifications: free and premium. There are just several features and limitations that can be paraphrased and provided in the free version. The premium version gives access to the features and 10.000 words that can be changed. The advantage of having a premium account is the ability to change words in any feature, such as standard, fluency, formal, academic, simple, creative, expand, and custom. However, the free version only provides the standard, fluency, and regular features. QuillBot offers significant benefits for academic writing. It can develop writing fluency in composing coherent and cohesive text (Latifah et al., 2024). Besides, QuillBot assists the writer in expressing their mind and thoughts effectively by offering sentence construction, adjusting word choice, and choosing appropriate synonym recommendations (Raheem et al., 2023). The emerging writing tool assistance, QuillBot, pursues better feature

development for upgrading the academic writing process and promoting the next level of writing ability.

Most previous research has investigated the presence of AI in language skills development. However, few studies have discovered QuillBot's contribution to developing academic skills, especially for higher-level students. Therefore, this study proposes the influence of QuillBot on revolutionizing academic writing for higher education students. The researcher considers several aspects that might power QuillBot's writing skills and efficiency development through previous research as supporting data and evidence. This study explored the impact of using QuillBot in academic writing and examined user perception and experience in utilizing QuillBot for writing. Therefore, this study provides valuable insight to motivate students and educators in composing academic writing.

## **LITERATURE REVIEW**

### **Academic writing in higher education**

Academic writing is a professional work in higher education; it is the identity work proposed by higher education students (French, 2020). It significantly determines the quality of authorization and legitimacy of the students and lecturers at the higher education levels. Therefore, most universities assign students written assignments as the assessment medium. The lecturer has to read the works and propose an assessment rubric to recognize academic writing progression and achievement (French, 2018). It aims to prepare the students to write academically in their higher years. Besides, the other essential function of academic writing is to offer an academic professional life. Therefore, the institution engages the students in academic writing competitions and assignments to train them to achieve writing proficiency (French, 2020). The effectiveness of academic writing is denoted by the successful lectures that introduce students to the characteristics of academic writing that form higher education (Pineteh, 2014). Academic writing proposes to construct both discipline writing and cognitive development and flexibility.

Various research studies have been conducted on academic writing, including the struggle, peer feedback, the essentialness for academic achievement, and more. French (2018) discussed research about reconsidering the role of struggle and difficulties in academic writing. He noted that the universities must consider and overcome the challenging concerns of the students by providing support to students in effective writing through the tools and strategies they can access. Huisman et al. (2019) Discussed the impact of formative peer feedback on higher-level students' academic writing. The study revealed that peer feedback does not significantly affect the students' writing since there is a lack of mastery of the students' writing. French (2020) conducted another academic writing research study about forming professional writing in higher education. The study showed the influence of the students' awareness strategy and tactic learning to gain clear inference for the development, confidence, and innovative academic writing among academic authors.

Those previous researchers researched academic writing, focusing on utilizing less technology integration. As a result, the students face struggles and failures, are unmotivated, and need more self-control. Without technology, writing seems complicated since the writer struggles with composing ideas, writing structured arguments, managing the appropriate revision, editing, and gaining clarity (Khalifa & Albadawy, 2024). Additionally, technology has a significant role in assisting with the complexity of grammar and sentences, creating academic sentences since EFL students need to familiarize themselves with academic sentence structure (Pineteh, 2014).

Most students occasionally need help with word sections, grammatical precision, structuring academic writing tone, and implementing a variety of sentence structures and tenses since they are unfamiliar with academic words, which results in the writing showing simple words (Wiranda et al., 2024). The advancement of technology also provides many vocabulary words that can be used in writing, especially in academic and formal forms. In addition, according to Maharani et al. (2023), many students need help finding instruction, cohesion, and coherent ideas, affecting the impact of the writing. Problems included needing help to compose the sentence logically, preserving coherence among paragraphs, and adjusting each sentence to regulate the overall thought.

Several researchers conducted studies regarding academic writing with technology integration and technology assistance. Faisal and Carabella (2023) Researched using Grammarly as assistance in writing academic content for higher education. The research claimed that the study found the factors that affected writing development with Grammarly assistance associated with practical and contextually relevant feedback. Astuti and Sumarni (2023) Researched the advantages and disadvantages of using Grammarly in writing. The study revealed that Grammarly could develop students' self-directed learning. The benefits of Grammarly are that it can check correctness, engagement, plagiarism, clarity, convenience, and proper words. However, Grammarly needs a high internet speed, excellent connectivity, and a stable internet connection to access the overall features. Besides, Hadiat (2022) Researched using Grammarly to develop students' accuracy in writing. The findings revealed that using Grammarly could improve the accuracy of writing descriptive text. The findings also showed that most students shared thoughts regarding using Grammarly to write descriptive text. Since the tools motivate the students in writing, they influence the development of their writing ability. Besides, the students found it easier to figure out the mistakes, avoid plagiarism, promote students' confidence, and propose correctness.

### **QuillBot AI in writing processing**

Artificial intelligence (AI) represents overall automated technology with behavioral intelligence, such as human intelligence in reasoning, learning, paraphrasing, and self-correction (Kurniati & Fithriani, 2022). Artificial intelligence is a creation beyond technology that makes learning and education easier (Yoandita & Yenni Hasnah, 2024). AI methods propose several processes to acquire deep learning and natural language proficiency. QuillBot is a tool that combines summarizing and paraphrasing modes with AI-based language identification. The tool was created to find alternative ways to have excellent academic writing. Additionally, most researchers have dominantly researched using QuillBot as writing assistance, paraphrasing, and grammar checking (Latifah et al., 2024). QuillBot offers assistance in writing development through clarity improvement, writing professional development by rephrasing words and sentences, plagiarism detection and maintenance, and lengthy meaning summarizing (Nurmayanti & Suryadi, 2023). QuillBot offers many beneficial features that can be used in writing. However, according to Amanda et al. (2023), paraphrasing is the most popular feature in writing.

There are seven modes provided in the paraphrasing feature. It is beneficial for the students to recognize that academic English should be used. Another proposed benefit is the various structures that enhance the various writing tones. The modes include: 1) Standard mode. This mode is used to simplify the sentences used. The sentence suggestion looks authentic in this mode; 2) Fluency mode. This mode paraphrases the sentence more naturally by implementing appropriate grammar based on English rules. Fluency mode provides minimal sentence changes

and maintains the main arguments proposed; 3) Formal mode. It is beneficial for academic writing because it allows for formal words in sentences. This method is one of the most significant modes for academic writing, such as articles and papers. However, the account should be premium to access and acquire word suggestions; 4) Simple mode. The mode simplifies the sentences than the standard mode; 5) Creative mode. It provides as many sentences as you need. The feature rephrases the original text creatively, such as adding supporting idioms to create creative writing. Thus, this mode is more appropriate for creating writing than academic writing. The words change more, adjusting to the creative needs of the original text; 6) Expand mode. As its name suggests, the writer can rephrase a sentence longer than the original; 7) Shorten mode. This model is beneficial for creating practical and straightforward sentences as it could cut sentence repetition without reducing the meaning of the original sentence (Fitria, 2021; Nurmayanti & Suryadi, 2023).

Those features provided ease of writing development. QuillBot was created to assist the writer in changing and rephrasing sentences and paragraphs while maintaining the original message. The writer will acquire suggestions for changing by entering the target sentences; it also allows the writer to rephrase the sentences based on what is needed. It provides time efficiency to improve the quality of the writing. The various features, including paraphrasing modes, grammar checkers, AI detectors, and more, develop the writer's vocabulary (Dewi et al., 2024). It permits students to expand their academic vocabularies to create academic writing progression, avoid plagiarism, and enhance grammar knowledge (Yoandita & Hasnah, 2024). According to Fritia (2022), QuillBot can improve writing rapidly by cutting simple words daily to convey academic coherence and cohesive meaning. The paraphrasing feature assists the writer in structuring the sentence effectively, clearly, briefly, and straightforwardly.

## **METHODS**

This study employed a Systematic Literature Review method. A systematic literature review synthesizes, analyzes, and interprets previous research to prove the research questions (Lame & Guillaume, 2019), according to Nawi and Nor. (2023), the systematic literature review is a critical summary of primary articles that address particular research questions by selecting, identifying, analyzing, and evaluating the previous research. In this article, the systematic literature review was described in a comprehensive summary of the primary study of QuillBot in academic writing.

The study used a systematic literature review formula formulated by Lame and Guillaume (2019), which consists of eight steps. The following steps will be explained below.

**Table 1.** Steps in determining the literature review

<b>Steps</b>	<b>Outcomes</b>
Formulating research questions	This step aims to denote questions that need to be proven
Determining inclusion and exclusion criteria	This step aims to identify eligible and ineligible previous relevant studies by setting criteria such as year, content, method, etc.
Locating a relevant study	Determine resources to find relevant research. This is usually conducted to find articles in reputable journals or publishers.

<b>Steps</b>	<b>Outcomes</b>
Studies selection	Select relevant studies to employ in the research. Two techniques are used to determine the study utilized: first, scan the title and abstract, and second, read the complete study
Assessing the quality of the study	Use the previous method to assess the data. Consider the inclusion and exclusion criteria previously.
Extracting the data	Determine the relevant study to derive the data of interest.
Analysing and delivering the result	Present the critical analysis result.
Interpreting the results	state the research limitation from the previous study, the supporting details of the evidence, and considerations for future research.

Table 2 presents the consideration of research questions, inclusion and exclusion criteria, study resources, study selection, and assessment quality.

**Table 2.** Research protocol

<b>No</b>	<b>Protocol</b>	<b>Description</b>
1	Research questions	<ol style="list-style-type: none"> <li>How does QuillBot impact academic writing?</li> <li>How does the student perceive QuillBot in academic writing?</li> </ol>
2	Inclusion and exclusion criteria	<p>Inclusion criteria</p> <ol style="list-style-type: none"> <li>The articles were published from 2019 to 2024.</li> <li>The articles must include the terms “academic writing” and “QuillBot” in the title, abstract, and keywords.</li> <li>Open-access journal.</li> <li>Written in English.</li> </ol> <p>Exclusion criteria</p> <ol style="list-style-type: none"> <li>The articles were published before 2019.</li> <li>The studies did not present the results clearly.</li> <li>The results and discussion were not presented systematically.</li> </ol>
3	Relevant study resources	<ol style="list-style-type: none"> <li>Scopus</li> <li>Google Scholar</li> <li>ResearchGate</li> <li>ScienceDirect</li> <li>Taylor &amp; Francis</li> </ol>
4	Studies selection	<ol style="list-style-type: none"> <li>Screening the title and abstract</li> <li>Reading the entire study</li> </ol>
5	Quality assessment of the studies	<ol style="list-style-type: none"> <li>The research objective is denoted clearly.</li> <li>The methodology described in descriptive qualitative and quantitative research represents the result of the study.</li> <li>Exclude the literature review.</li> </ol>

PRISMA conducted the process of selecting articles. PRISMA is a guideline that assists the authors in developing a systematic review report (Page et al., 2021). Several considerations are included in selecting articles, including the objective of the review, inclusion and exclusion criteria, database resources, study selection, and assessment quality. The PRISMA outline below presents the detailed process of assessing the quality of the studies. The selection process was conducted by reviewing the title, abstract, and the entire study. Reading the entire study aimed to

confirm the detailed data in the abstract. The step was continued by assessing the study. The inclusion and exclusion criteria presented in Table 1 proposed the study assessment. Figure 1 presents the assessment process of the articles identified.

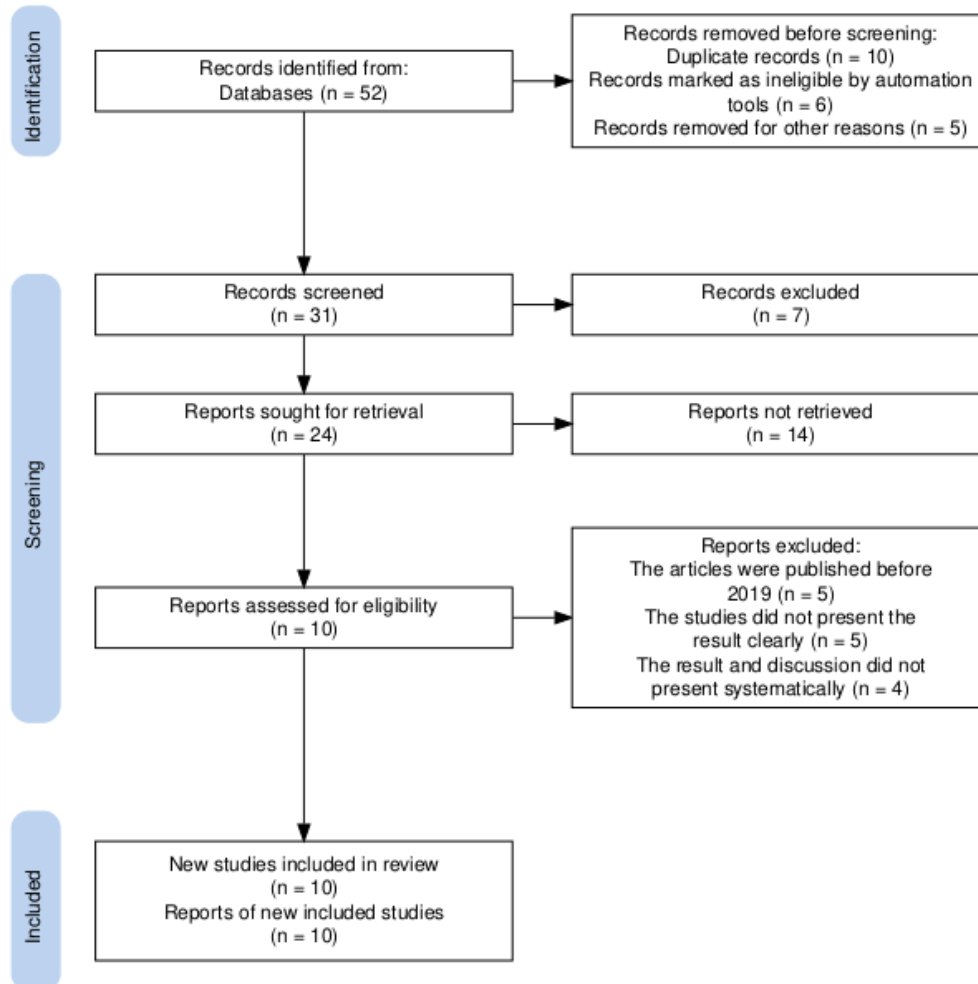


Figure 1. The selection and assessment process

## RESULTS AND DISCUSSION

The result and discussion present the extraction data, data analysis, and interpretation. Data interests were listed in a table with several considerations to gain comprehension. The result presented the findings of the articles chosen. From the findings, the author could interpret the discussion, including the evidence of the research questions, the limitations of the previous study, and future research considerations.

## RESULTS

The result showed several advantages of QuillBot AI in assisting higher-level students in composing academic writing, as denoted by several previous studies. The benefits are felt by both the lecturer and student in higher education. Table 2 summarizes the reliable articles to synthesize and analyze based on the chosen topic.

**Table 3.** Articles summary

<b>No</b>	<b>Author, year</b>	<b>Journal</b>	<b>Findings</b>
1	Andriani et al. (2024)	Academic Journal of English Language and Education	The researchers found a lack of satisfaction among EFL students in using QuillBot. It was influenced by attitude, social, and private factors. The most significant factor that influenced was attitude or behavior. This factor is realized as less self-ability in grammar and a lack of vocabulary. Moreover, the environment also plays a significant role in supporting self-efficacy, especially the motivation from lecturers and friends. They build positivity and encouragement for the EFL students' self-confidence using QuillBot.
2	Kurniati and Fithriani (2022)	Journal of English Language Teaching and Linguistics	The findings indicated a positive response from postgraduate students to using QuillBot to improve their writing quality. Additionally, QuillBot provides three benefits for the students: developing students' positive writing attitude, offering meaningful features, and supporting language development.
3	Nhu (2024)	International Journal of AI in Language Education	The study showed the benefit of QuillBot in assisting students in paraphrasing words. It presented three main benefits, including developing coherence, enhancing vocabulary and grammar, and time efficiency in writing. Those benefits help students develop paraphrasing skills.
4	Dewi at al., (2024)	English Journal for Teaching and Learning	The results found that QuillBot is beneficial for students' writing, especially in paraphrasing words, which was found in 66% of students. Besides, 70% indicated that QuillBot could develop their vocabulary. 63% stated that it could enhance sentence structure, and 60% students showed improvement in writing. 76% believed that it assisted in determining appropriate words for paraphrasing, and 77% of students realized they were more assured in writing.
5	Fitria (2022)	Journal of English Language Studies	QuillBot offers free and premium versions for users. This platform provides two primary paraphrasing methods: maintaining the original sentence and changing a particular meaning, or changing the sentence structure to create a natural sentence. Nevertheless, the paraphrasing is occasionally inaccurate in terms of the target meaning. Thus, the students must check and reread to understand the meaning and rewrite using their own words.

No	Author, year	Journal	Findings
6	Chanpradit et al. (2024)	Journal of English Teaching	This comparative study showed that QuillBot and Paraphrase Tool utilized synonym forms; QuillBot emphasizes word-level change and focuses on sentence structure. QuillBot showed minimal revision, then exhibited moderate revision for the second paraphrase. At the same time, the Paraphrase Tool tended to provide moderate revision and continued with minimum revision.
7	Jaladara et al. (2023).	Celebes Journal of Language Studies	The findings denoted that the QuillBot presented negative and positive impacts on students' academic writing skills. The positive impact included influencing students' time efficiency, developing vocabulary, and assisting the students in producing formal, complex, and objective scholarly writing. The negative implications refer to negative attitudes like laziness and not utilizing their potential ability.
8	Yoandita and Hasnah (2024)	Journal of English Study Programme	The findings showed that QuillBot played a significant role in enhancing EFL students' academic writing skills. It was seen from the post-test result, which was 285. It indicated that students acquire writing development through the features offered in QuillBot.
9	Gurbuz (2024)	Journal of Educational Studies and Multidisciplinary Approaches	The findings showed QuillBot's advantages among the experimental group. One beneficial aspect of QuillBot is prompt feedback. The students noted that prompt feedback improved their writing quality by clarifying and suggesting mistakes. Therefore, they could realize and claim the suggestions in their writing.
10	Nurmayanti and Suryadi, (2023)	Jurnal Penelitian dan Pengembangan Pembelajaran	The result showed that QuillBot assists students in paraphrasing, reduces the meaning, and helps avoid plagiarism. Nevertheless, students must read more to ensure the writing is coherent.

The data presented in the table shows that using QuillBot influences students' writing skill development. The various impacts were discovered to overcome the writing difficulties and challenges faced by the students. Several studies showed particular satisfaction among students with their writing ability before and after utilizing QuillBot. They felt more confident in their writing with the assistance of the QuillBot tool.

## **DISCUSSION**

### **The impact of QuillBot on students' academic writing quality**

The QuillBot tool facilitates the minimum possibility of error in writing. It is supported by several features that can lead the students to produce excellent writing. This platform is mainly known as a paraphrasing tool, which means the students have prepared and paraphrased their writing using QuillBot to compose their writing more academically. Numerous studies have shown that QuillBot presents positive benefits for developing academic writing ability. According to Fitria (2021), paraphrasing a sentence in QuillBot ranges from basic to complex and involves four processes. First, use synonyms. It reflects the bare paraphrasing. The students can change the word into another similar word. It facilitates the students to avoid the use of monotonous vocabulary (Chanpradit et al., 2024). However, students must consider the word before changing it since not all words can be changed into synonyms. Additionally, paraphrasing is done by changing the sentence's structure. QuillBot will offer different sentences by following sentence structure rules. The features assist the students in developing greater sentence organization (Kurniati & Fithriani, 2022). Occasionally, some words will be subtracted and added. It also probably combines changing sentence structure and synonyms at the same time. In addition, paraphrasing is conducted by changing parts of speech, including verbs, adverbs, adjectives, and so forth, but keeping the meaning and grammar. Lastly, it suggests active and passive voice. The active target sentence might be suggested into a passive sentence or vice versa.

QuillBot recognizes grammatical errors and assists students in paraphrasing sentences, which is considered a writing evaluation. It indirectly gives students feedback on composing effective writing forms (Amanda et al., 2023). The input presented is not only the grammar and sentence structure, but also the use of punctuation. Additionally, QuillBot provides prompt feedback (Gurbuz, 2024). The feedback provided is believed to enhance students' writing quality. From the feedback, the students realize their errors and mistakes. This indicates that QuillBot can improve students' writing and facilitate their acquisition of new knowledge in writing. QuillBot presents a technical concept for paraphrasing the content. However, the tool still preserves the meaning of the original content (Chanpradit et al., 2024). This means that the students do not need to be concerned about changing the word or sentence structure suggested by QuillBot. Nevertheless, students must keep reading the paraphrased content to confirm and clarify the meaning and avoid misconceptions.

The paraphrasing process assists the students in developing their academic writing ability. The study conducted by Yoandita and Hasnah (2024) showed that the EFL students responded positively to QuillBot as writing assistance. This AI is admissible to integrate into writing as it allows students to recognize errors and learn grammar. Grammar errors might occur among students since, nowadays, lecturers focus much on speaking by ignoring the students' grammar. Therefore, assistance with writing is needed to clarify grammar errors in the existing writing. Besides grammar, QuillBot allows students to arrange the writing based on their needs (Fitria, 2021). It supported the study by Nurmayanti and Suryadi (2023), which discussed that QuillBot utilization can organize the writing more scientifically. Their study denoted that students can choose the academic features to construct academic writing. As a result, the students showed improvement in producing academic writing as suggested by the tool. Therefore, QuillBot realizes this as an endeavor and time investment for the students in writing.

The impact of utilizing QuillBot also occurs in terms of efficacy in a social context. The social context here refers to students and lecturers. Adriani et al. (2024) found that the lecturers'

presence and suggestions on students' writing feedback influence improving writing skills. It will lead to academic discussion concerning the effective reliance on AI writing assistants (Jaladara et al., 2023). In this case, the lecturers recommend QuillBot to organize their students' writing. This suggestion affects the students' motivation to compose academic writing. The students started to adopt the platform and felt it was easy to do their work. The ease of producing the writing includes overcoming grammar issues, enriching academic vocabulary, and minimizing plagiarism detection. Students cannot copy and add all the sentences to academic writing, considering the plagiarism issue. It will be detected as plagiarism. Therefore, students have to paraphrase the idea from previous research and give credit for it. Fitria (2022) stated that QuillBot offers extra paraphrasing to avoid plagiarism in students' writing. The tool will summarize and rewrite the sentences to paraphrase them and focus on the central idea.

### **The students' perception of QuillBot in academic writing**

Kurniati and Fithriani (2022), in their study, examined post-graduate perceptions of three essential points in relation to the advantages of utilizing QuillBot in academic writing, including developing students' positive behavior in writing, facilitating a variety of meaningful features, and promoting students' language development. The data showed that most students felt that utilizing QuillBot could develop positive behavior, such as increasing their confidence and reducing their writing anxiety. Besides, QuillBot encourages their enthusiasm for writing. The presence of QuillBot motivates the students' engagement in writing, as this platform enables students to recognize the mistakes produced through writing. It showed that the student's motivation is linked with participation and experience (Andriani et al., 2024). Additionally, this result, in line with the statement proposed by Gubruz (2024), denotes that the feedback suggested by QuillBot can develop students' writing quality; it will influence the students' self-confidence toward their work. Thus, the input provided by the tool leads the students to have a positive psychological attitude despite just focusing on cognitive development.

The second perception highlighted the existing feature provided in QuillBot. The students appreciated the features that improved their writing ability. It facilitates students to paraphrase, organize, edit, proofread, adjust sentences, and conform to appropriate grammar. Yoandita and Hasnah (2024) also mentioned that the features present on QuillBot allow the students to discover grammar errors, including punctuation, word order, sentence structure, and so forth. Additionally, the perception also reflected the challenge encountered by the students, who had difficulty identifying appropriate grammar, composing ideas, and organizing the cohesion and coherence of their writing (Khalifa & Albadawy, 2024). Therefore, the existing features are believed to develop the student's writing performance by tailoring the students to compose structured, credible, coherent, and cohesive writing.

The third perception is regarding language development. Most of the students argued that they had significantly increased their language development. Despite development in academic writing ability, the increase is seen in enhancing vocabulary mastery and grammatical ability. This perception was also mentioned in a study by Nhu (2024), stating that QuillBot supports grammatical structure development. The students noted that the suggestion provided in the QuillBot inspired them to create their sentences, and they discovered new, meaningful vocabulary to support their writing more academically. Therefore, these perceptions overcome the writing challenge mentioned by Amanda et al. (2023) that EFL students tend to make errors in writing due to the omission of the appropriate grammar, spelling, and vocabulary mastery.

Another perception mentioned in the Dewi et al. (2024) study stated that the students noticed their vocabulary improvement. It aligns with the student's language development discussed in the survey by Kurniati and Fithriani (2022). Based on the findings, most students strongly agreed with vocabulary development after utilizing QuillBot. This statement firmly supports the statement proposed by Jalandra et al. (2023), which mentioned that QuillBot promotes significant vocabulary increase to create appropriate sentence production. The positive perception leads to QuillBot's advantage for students in producing content for their writing.

Overall, the findings on students' perceptions denoted a positive attitude toward QuillBot integration in academic writing. They apprehended QuillBot as a beneficial tool for developing vocabulary, enhancing grammar ability, confirming clarity, and showing engagement in writing. Through these perceptions, the students discovered their motivation to complete the academic writing assigned by the lecturers. Therefore, the students felt confident in their writing performance.

## **CONCLUSION**

The emergence of technology, mainly QuillBot, facilitates students in reducing their challenges in producing academic writing. Composing writing without technology's assistance might influence the student's writing quality. This is because students have inadequate academic and formal vocabularies, less ability in grammar, and less knowledge of making clear sentences. Therefore, technology helps higher-level students power their academic writing. QuillBot provides several benefits for students who struggle with writing. Additionally, this tool facilitates a better quality of students' writing. They could reduce the errors and mistakes made before technology assistance. The students performed at a higher level of quality in writing. It can minimize the anxiety and hostile concerns that students might feel. Furthermore, the overall systematic literature review results denoted a positive attitude and the presence of the benefit of the QuillBot. Further, future research is suggested to investigate the implications of QuillBot on students' psychological aspects of academic achievement. It is still lacking in studies exploring the psychological scope. In addition, future research can emphasize the contribution of the grammar checker in QuillBot, which has focused more on paraphrasing features than grammar checkers in other AI. The other topic for future research is the performance of AI in minimizing writing issues.

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