The Use of QuillBot in Academic Writing: A Systematic Literature Review

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ABSTRACT

In recent years, QuillBot, an AI-powered writing assistance tool, has gained significant attention within the academic writing sphere due to its innovative features to enhance productivity and improve the quality of written content. This study, employing the systematic literature review method, aims to explore the use of QuillBot in academic writing. A total of seventeen research publications published between 2018 and 2024 were included in this study. These articles were gathered from reliable databases such as Google Scholar, Semantic Scholar, ResearchGate, Emerald Insight Journals, Springer, ScienceDirect, and Taylor & Francis. The findings discovered that, while users value its time-saving features, concerns regarding overreliance and potentially hindering critical skills development exist. QuillBot significantly enhances writing quality and efficiency by detecting errors, paraphrasing, and expanding vocabulary. It also addresses language barriers and plagiarism concerns. Additionally, its function as a complement to autonomous writing and critical thinking was highlighted, and caution against over-reliance was suggested. Therefore, further research is needed to examine its influence on academic performance, effectiveness across linguistic contexts, and function in writing instruction.

Introduction

Academic writing plays a vital role in higher education as it influences the creation, transmission, and use of knowledge. However, for both students and scholars, the process of producing high-quality academic writing can be challenging. In order to address this challenge, various technology tools have been developed to assist writers in enhancing their writing abilities and improving the overall quality of their work. One such tool is QuillBot, an advanced artificial intelligence (AI) powered writing assistant that assists users in generating coherent, accurate, and well-structured content (Rahmani, 2023). The development of AI writing assistants such as QuillBot has been made possible by rapid advancements in machine learning and natural language processing techniques. This technology utilizes advanced algorithms to read and analyze text, providing suggestions, paraphrasing, and creating alternative sentences to improve written information's readability, coherence, and fluency. Another feature of QuillBot is the ability to rephrase sentences, summarize texts, provide contextual synonyms, and make the overall review process easier. Therefore, it has drawn significant attention in academic contexts, where numerous writers and educators are investigating its possible advantages for improving writing quality and efficiency.

QuillBot has particular advantages for academic writing. Firstly, it improves writing fluency by assisting writers in producing coherent and well-structured texts. QuillBot helps writers communicate their thoughts more clearly and effectively by providing sentence construction, word choice, and synonym-selection recommendations. Secondly, QuillBot helps improve writing efficiency by providing alternative sentence options and paraphrasing suggestions. With the use of this tool, writers can edit and polish

their work more quickly, reducing the need for extensive manual editing. Thirdly, QuillBot helps writers overcome paraphrasing, grammar, and synthesis challenges. It offers alternative sentence phrasing to prevent plagiarism and maintain originality, along with grammar and punctuation suggestions for error correction and elevating the quality of written work. Moreover, QuillBot's text summarization feature is helpful for academic writing, allowing writers to extract important information from lengthy paragraphs and incorporate it easily into their writing by summarizing it concisely. Therefore, QuillBot is a valuable tool for writers and non-native English speakers in various linguistic and cultural contexts. Users can enhance their writing competence and utilize English more accurately by using the contextual synonyms and language suggestions it provides.

Research on QuillBot and its use in academic writing has gained attention in recent years. Several studies have explored its potential benefits and limitations, shedding light on its effectiveness and identifying areas for improvement. For instance, Amyatun and Kholis (2023) studied QuillBot AI and found that it significantly improved students' writing skills in creating hortatory exposition texts. The study involved eleventh-grade students as participants, and the research was carried out utilizing the Classroom Action Research (CAR) method. The results showed a significant increase in the students' writing test scores after using QuillBot AI. Further, Amanda et al. (2023) found that students viewed QuillBot positively as an alternate English writing tool. The use of QuillBot was perceived to help improve writing abilities, particularly in punctuation, grammar, paraphrasing, and summarizing. Students appreciated the convenience and accessibility of QuillBot, although some features were limited to the paid version. Furthermore, Fitria (2022) discovered that QuillBot is a valuable tool for students to prevent plagiarism in their scientific work. The analysis revealed that QuillBot offers various paraphrasing methods, such as changing word order, using synonyms, altering sentence structure, and separating information into separate sentences. Moreover, QuillBot Premium provides different modes of paraphrasing to meet specific writing requirements.

However, despite the growing interest in QuillBot, there are still notable gaps in the existing research that need to be addressed. One gap in the literature is the limited number of studies specifically focused on assessing the impact of QuillBot on writing quality and academic performance. While specific research studies have documented favorable results regarding enhanced writing fluency and coherence (Amanda et al., 2023; Amyatun & Kholis, 2023), there is a need for more research designs, including a systematic literature review, to establish a broader evidence base. Furthermore, the predominant research has primarily focused on English language learners, leaving a gap in understanding how QuillBot functions for writers in different linguistic and cultural contexts (Fitria, 2022). In addition, research on QuillBot has predominantly focused on its use as a writing assistant, with limited attention given to its potential role in writing instruction. While these studies acknowledge the different modes of paraphrasing provided by QuillBot, they do not delve into their specific impact on the writing process. Furthermore, the study needs to address potential limitations or challenges associated with using QuillBot, such as the availability of certain features only in the paid version. Therefore, there is a need for studies that explore how QuillBot can be integrated into instructional practices, including its use in teaching writing skills and providing formative feedback.

Hence, the primary objective of this research is to investigate studies on the use of QuillBot in various aspects of academic writing. It includes exploring the user perceptions towards it, its influence on writing quality, efficiency, and fluency, and its

potential to support writers in overcoming challenges such as paraphrasing, grammar, and synthesis.

Research Method

The methodology employed in this study is a Systematic Literature Review (SLR). A systematic literature review (SLR) is a research methodology that identifies, evaluates, and interprets all existing research relevant to a specific research question, subject area, or phenomenon of interest (Kitchenham & Charters, 2007). Mohd Nawi and Muhmad Nor (2023) further stated that SLR involves systematically identifying and critically evaluating relevant research on a particular topic and synthesizing the findings. In this study, the SLR method was employed to comprehensively summarize the existing research on the use of QuillBot in the academic writing context.

This current study followed the Systematic Literature Review (SLR) methodology outlined by Albliwi et al. (2014). The approach consists of three phases: planning, conducting, and documenting. The steps within these phases are explained below:

A. **Phase 1: Planning the review**
   - **Step 1: Develop a research purpose and objective** – Clearly state the goal of the SLR.
   - **Step 2: Develop research protocol** – Create a research protocol that includes the purpose, research questions, inclusion criteria, exclusion criteria, databases, keywords, and quality assessment criteria.

B. **Phase 2: Conducting the review**
   - **Step 3: Establish relevance criteria** – State the reasoning for whether a resource is relevant to this study.
   - **Step 4: Search and retrieve the literature** – Conduct searches on applicable scientific databases to find literature.
   - **Step 5: Selection of studies** – Use the inclusion and exclusion criteria to select studies.
   - **Step 6: Quality assessment for relevant studies** – Assess the quality of each paper.
   - **Step 7: Data extraction –** Extract relevant information from the papers.
   - **Step 8: Synthesis of studies (analysis)** – Analyze and synthesize the papers' data to find themes and patterns.

C. **Phase 3: Documenting the review**
   - **Step 9: Reporting** – Report the review in detailed results.
   - **Step 10: Dissemination** – Publish the SLR

Each step was elaborated below:

Step 1: Develop a research purpose and objective

The purpose of this research was to investigate studies on the use of QuillBot in academic writing. The aim was divided into the following objectives: (1) to explore the perceptions regarding QuillBot among users, (2) to examine the impacts of QuillBot on writing quality and efficiency, and (3) to assess the effectiveness of QuillBot in assisting writers with challenges such as paraphrasing, grammar, and synthesis.

Step 2: Develop a research protocol

The research protocol was developed and is presented in Table 1. The protocol breaks down the purpose, research questions, criteria, databases, keywords, and quality assessment criteria.

Table 1. Research protocol

Purpose of the study	To investigate studies on the use of QuillBot in academic writing.
Research questions	1. What are the perceptions towards QuillBot? 2. What are the influences of QuillBot on writing quality and efficiency? 3. How does QuillBot help writers in overcoming challenges such as paraphrasing, grammar, and synthesis?
Inclusion criteria	• The publication dates of the articles were restricted to the period from 2018 to 2024. • Written in the English language. • The articles needed to contain the term "quillbot" and "academic writing" in the title, abstract, or keywords. • Accessibility in the form of openly accessible complete texts. • Publication in peer-reviewed journals or relevant conference papers.
Exclusion criteria	• Any publications before the year 2018. • Literature Review Papers. • Publications that were not written in the English language.
Search databases	• Google Scholar • Semantic Scholar • ResearchGate • Emerald Insight Journals • Springer • ScienceDirect • Taylor & Francis
Keywords	• "quillbot" and "academic writing"
Quality assessment criteria	• All duplicate literature must be removed. • The conclusions are reliable and relate to the purpose of this current study. • The aim or purpose of the study is clearly stated. • The overall methodology used is described in such a manner that the study can be replicated.

Step 3: Establish relevance criteria

The following relevance criteria were developed in order to screen studies for inclusion and exclusion:

Inclusion criteria:
- The publication dates of the articles were restricted to the period from 2018 to 2024.
- Written in the English language.
- The articles needed to contain the terms "quillbot" and "academic writing" in the title, abstract, or keywords.
- Accessibility in the form of openly accessible complete texts.
- Publication in peer-reviewed journals or relevant conference papers.

Exclusion criteria:
- Any publications before the year 2018.
- Literature Review Papers.
- Publications that were not written in the English language.
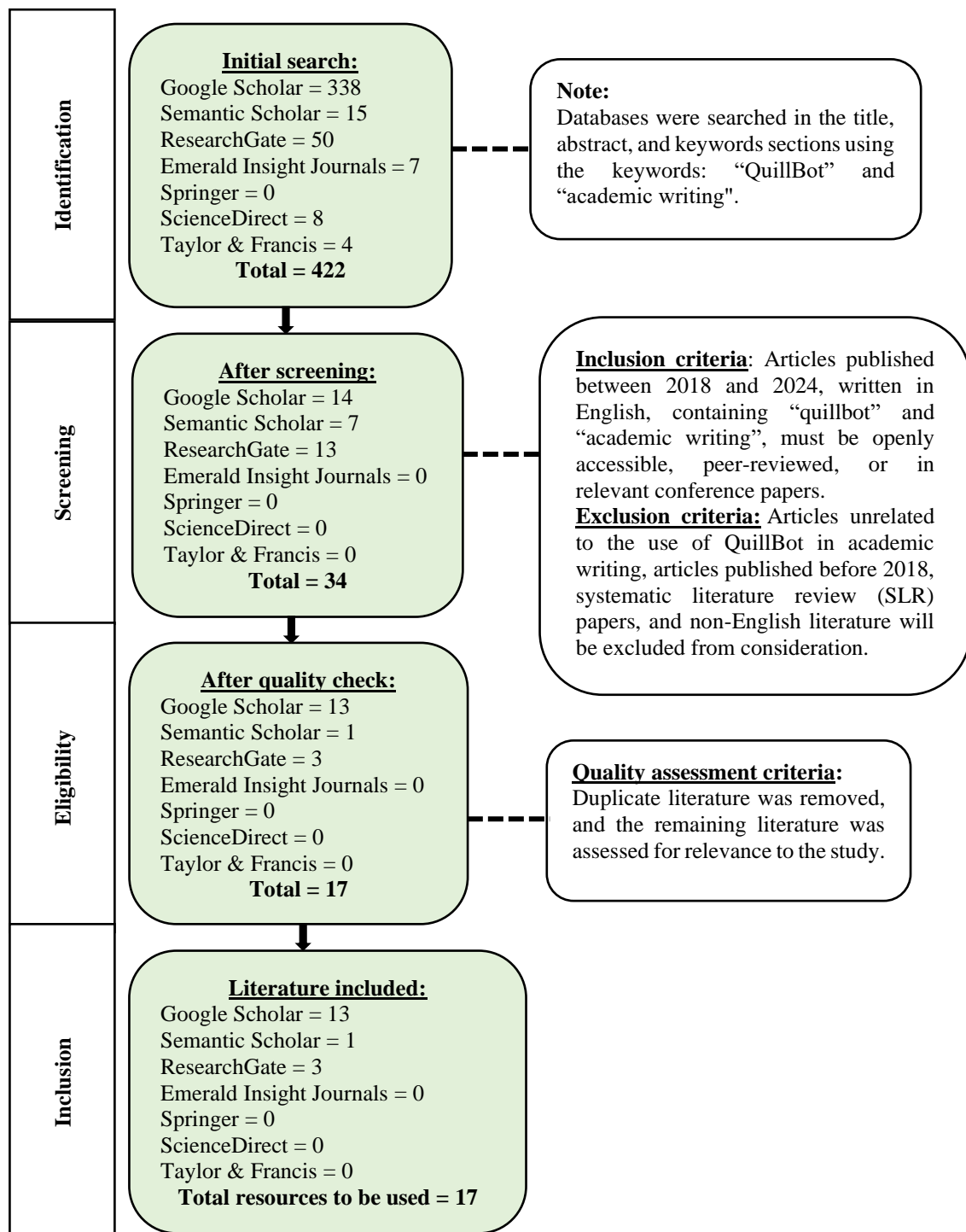
Step 4: Search and retrieve the literature

The process of conducting literature searches and extractions was carried out utilizing the databases listed in Table 1. The initial search yielded 422 resources from seven databases. The search and retrieval process followed is documented in the "Identification" section of Figure 1.

Step 5: Selection of studies

After reviewing the abstracts and titles of the studies, a total of 34 studies were identified as eligible for inclusion using the criteria stated in Table 1. The outcome of the selection process is displayed in the "Screening" section of Figure 1.

Step 6: Quality assessment for relevant studies

After eliminating all duplicates, the next step was to conduct a comprehensive quality assessment of the studies by thoroughly reading the full texts and evaluating them using the quality assessment criteria outlined in Table 1. Subsequently, studies meeting the inclusion criteria were selected. In total, 17 studies were finally used. The progression from steps 4 through 6 of the selection process is illustrated in Figure 1.

Identification

Initial search:
Google Scholar = 338
Semantic Scholar = 15
ResearchGate = 50
Emerald Insight Journals = 7
Springer = 0
ScienceDirect = 8
Taylor & Francis = 4
Total = 422

Note:
Databases were searched in the title, abstract, and keywords sections using the keywords: "QuillBot" and "academic writing".

Screening

After screening:
Google Scholar = 14
Semantic Scholar = 7
ResearchGate = 13
Emerald Insight Journals = 0
Springer = 0
ScienceDirect = 0
Taylor & Francis = 0
Total = 34

Inclusion criteria: Articles published between 2018 and 2024, written in English, containing "quillbot" and "academic writing", must be openly accessible, peer-reviewed, or in relevant conference papers.
Exclusion criteria: Articles unrelated to the use of QuillBot in academic writing, articles published before 2018, systematic literature review (SLR) papers, and non-English literature will be excluded from consideration.

Eligibility

After quality check:
Google Scholar = 13
Semantic Scholar = 1
ResearchGate = 3
Emerald Insight Journals = 0
Springer = 0
ScienceDirect = 0
Taylor & Francis = 0
Total = 17

Quality assessment criteria:
Duplicate literature was removed, and the remaining literature was assessed for relevance to the study.

Inclusion

Literature included:
Google Scholar = 13
Semantic Scholar = 1
ResearchGate = 3
Emerald Insight Journals = 0
Springer = 0
ScienceDirect = 0
Taylor & Francis = 0
Total resources to be used = 17

Figure 1. Literature selection process

Result and Discussion

The results (step 7 and 8) from the SLR methodology are discussed in the following sub-sections.

Step 7: Data extraction

Data extraction in a systematic literature review refers to the process of systematically collecting relevant data from the selected articles or studies. This step has been performed on 17 scholarly articles related to the application of QuillBot in academic writing. The articles were carefully chosen and examined, and the relevant findings and insights from each article have been summarized and presented in a table format.

Table 2. Summary of 17 Articles

No	Author(s) and Year	Journal/Vol/PP	Findings
1	Jaladara et al. (2023)	Celebes Journal of Language Studies, 3(2), 275-284.	The findings showed that students hold diverse perspectives on QuillBot. Certain individuals appreciate its time-saving capabilities, vocabulary enhancement features, and assistance in academic writing. However, there are also negative perceptions, as some students tend to rely on QuillBot overly and neglect their own critical thinking and writing abilities.
2	Rahmani (2023)	Scripta: English Department Journal, 10(2), 182-190.	The findings indicate that students possess a positive perception of QuillBot in terms of its utility, user-friendliness, and their intention to use it. A vast majority of 81.6% of students found it to be useful, 90.75% considered it easy to use, and 100% exhibited a strong intention to employ it. These findings imply that QuillBot is a valuable paraphrasing tool, particularly beneficial for English as a Foreign Language (EFL) learners in writing classes.
3	Amanda et al. (2023)	Jurnal Pendidikan dan Sastra Inggris, 3(2), 188-199.	The findings showed that QuillBot is a valuable aid for students in identifying grammar and punctuation errors, paraphrasing sentences, and enhancing their writing abilities. Numerous students find the features of QuillBot to be advantageous, even when utilizing the free or unpaid versions. While acknowledging its limitations, QuillBot is widely regarded as an effective artificial intelligence (AI) tool for English writing support, as it effectively reduces errors and enhances writing skills.
4	Wulandari et al. (2024)	Jurnal Onoma: Pendidikan, Bahasa, dan Sastra, 10(1), 246-256.	The study findings found that the participants, including teachers, positively perceive QuillBot due to its ability to enhance writing processes, stimulate creativity, and enhance content quality.
5	Kurniati and Fithriani (2022)	Journal of English Language Teaching and Linguistics, 7(3), 437-451.	The utilization of QuillBot by post-graduate students yielded positive responses, leading to improvements in the overall quality of their writing. The use of QuillBot was identified to offer three key

			advantages: fostering positive attitudes towards writing, providing a range of user-friendly writing features, and supporting language development among students.
6	Mohammad et al. (2023)	Journal of Pedagogical Research, 7(5), 359-373	The study revealed that the enthusiasm and perspectives of English as a Foreign Language (EFL) students towards utilizing QuillBot had a favorable impact on their paraphrasing skills. This underscores the significance of cultivating positive attitudes and providing support from teachers in the effective use of QuillBot.
7	Hiếu et al. (2022)	TNU Journal of Science and Technology, 227(13), 116-124	According to the study, participants experienced benefits from using QuillBot, including build vocabulary and improved language proficiency. In addition, students exhibited positive attitudes towards the tool.
8	Nurmayanti and Suryadi (2023)	Jurnal Teknologi Pendidikan: Jurnal Penelitian dan Pengembangan Pembelajaran, 8(1), 32-40.	The findings of the study indicate that students perceive QuillBot as a valuable resource for paraphrasing text while maintaining the original meaning. However, it highlights the importance of maintaining consistency in the use of meaning, suggesting a positive perception of the tool.
9	Zulfa et al. (2023)	International Conference on Education (pp. 47-63).	The study revealed that participants found QuillBot helpful in providing direct feedback, correcting errors, and aiding with grammar and language-related issues.
10	Syahnaz and Fithriani (2023)	Scope: Journal of English Language Teaching, 7(2), 210-218.	The study found that students derive positive benefits from utilizing AI-based paraphrasing tools like QuillBot in language classrooms. The tool proves to be effective in enhancing content quality, rectifying grammatical errors, and improving language proficiency in academic writing.
11	Amyatun and Kholis (2023)	ELE Reviews: English Language Education Reviews, 3(2), 135-154.	QuillBot significantly enhances students' writing skills, enabling them to produce well-structured and coherent texts. The tool's features, such as sentence paraphrasing and grammar checking, contribute to improved grammatical accuracy and efficiency throughout the writing process.
12	Ginting et al. (2023)	International Journal of Multidisciplinary Research and Analysis, 6, 4640-50	As an AI-powered tool, QuillBot is particularly valuable for EFL college learners. It assists them in paraphrasing, avoiding plagiarism, smoothing sentence structures, and ensuring proper grammar in their final projects.
13	Baron et al. (2023)	Lingeduca: Journal of Language and Education Studies, 2(3), 250-265	QuillBot proves to be a reliable resource for checking students' grammar writing and simplifying the identification and correction of grammatical errors.
14	Xuyen (2023)	Proceedings of the 5th Conference on	Being an online paraphrasing tool, QuillBot aids EFL learners, especially those

		Language Teaching and Learning (pp. 21-27).	majoring in English, in overcoming challenges encountered in academic writing. It suggests alternative paraphrases, enhances vocabulary selection, and improves writing clarity, thereby fostering language development and improving skills.
15	Asmara and Kastuhandani (2024)	Globish: An English-Indonesian Journal for English, Education, and Culture, 13(1), 56-65.	The study found that students find Quillbot useful in academic writing due to its benefits in vocabulary and grammar, reducing plagiarism, and being user-friendly. However, they express concern about the continuous use of AI, which could replace their own skills. The study also found that students are aware of not relying too heavily on Quillbot and are more selective in adopting suggestions.
16	Chui (2022)	Journal of Creative Practices in Language Learning and Teaching (CPLT), 10(1), 10-31.	The QuillBot grammar checker outperforms other software options but is not flawless and necessitates manual error checks. Supplementing the tool with teacher feedback is recommended, allowing more time to be dedicated to addressing language errors while teachers focus on content and organization.
17	Yustiana et al. (2024)	Proceedings of the 3rd International Conference On Islam, Law, and Society, 3(1).	The study indicates that most students are familiar with QuillBot and use its features on average. Paraphraser is the most frequently used feature, which helps students to paraphrase, improve writing quality, and avoid plagiarism.

Step 8: Analysis and synthesis of findings

The following sections analyse and discuss the data presented in Table 1, focusing on analysing and synthesizing key themes and insights from the papers. Various aspects are explored, including perceptions of QuillBot, its impact on the quality and efficiency of writing, and its role in helping writers overcome challenges.

Perceptions towards QuillBot

Numerous studies have highlighted the diverse perceptions regarding the use of QuillBot, offering insights into its advantages and potential drawbacks. Many students appreciate QuillBot for its time-saving capabilities, vocabulary enhancement, improved writing skills, and assistance with academic writing tasks (Jaladara et al., 2023). Additionally, QuillBot serves as a valuable paraphrasing tool for EFL learners to overcome language challenges and improve paraphrasing skills (Rahmani, 2023). Moreover, it helps detect grammar and punctuation errors, paraphrase sentences, and enhance content quality (Amanda et al., 2023). Participants and teachers perceive QuillBot positively for improving writing processes, encouraging creativity, and providing grammar and language correction assistance (Wulandari et al., 2024). Hiếu et al. (2022) discovered that participants experienced benefits from using QuillBot, such as vocabulary building and enhanced language proficiency. Furthermore, it benefits post-graduate students, enhancing positive attitudes toward writing, offering user-friendly features, and aiding language development (Kurniati & Fithriani, 2022). Nevertheless, concerns exist regarding the potential negative impacts of QuillBot usage. Some students may become overly reliant on QuillBot, potentially neglecting their critical thinking and

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writing skills (Jaladara et al., 2023). Despite its usefulness, there is a caution against excessive dependence on AI tools like QuillBot, which might hinder independent writing and creativity (Asmara & Kastuhandani, 2024). It is essential to recognize that the tool's effectiveness is not absolute; it requires manual error checks and should be supplemented with teacher feedback for comprehensive writing improvement (Chui, 2022).

Scholars, such as Chui (2022), recommend finding a balance when utilizing QuillBot for grammar checking, combining it with manual error checks, and incorporating teacher feedback to address content and organization aspects. Consensus exists regarding the usefulness of QuillBot in supporting writing tasks; however, it is vital not to rely solely on the tool and to maintain consistency in the use of meaning, as suggested by Nurmayanti and Suryadi (2023). QuillBot undoubtedly offers significant benefits in enhancing writing skills, vocabulary, and language usage. However, it is crucial for users to approach it as a supplementary tool rather than a complete substitute for critical thinking and independent writing abilities. Finding a balance by utilizing QuillBot alongside manual error checks and teacher feedback can optimize its efficacy while reducing potential drawbacks.

The Influences of QuillBot on Writing Quality and Efficiency

Various findings indicate that Quillbot significantly impacts both the quality and efficiency of writing. QuillBot contributes to the enhancement of writing quality by providing valuable features such as grammar and punctuation error detection, sentence paraphrasing, and vocabulary enrichment (Amanda et al., 2023). These features help writers create more refined and professional-looking written work.

Moreover, QuillBot contributes to improving the efficiency of the writing process. Providing instant feedback and correction assistance streamlines the revision process, saving time spent on proofreading and editing (Zulfa et al., 2023). This efficiency boost is particularly beneficial for EFL learners and post-graduate students who may have limited time to devote to writing tasks (Kurniati & Fithriani, 2022). Furthermore, QuillBot enhances the coherence and clarity of written work. Its grammar and punctuation error detection features help writers identify and rectify structural inconsistencies, ensuring their writing flows smoothly and is easily comprehensible to readers (Amyatun & Kholis, 2023). Additionally, QuillBot's paraphrasing suggestions improve the text's overall coherence by offering alternative ways to express ideas more succinctly and effectively (Xuyen, 2023).

Thus, QuillBot substantially impacts both the quality and efficiency of writing. It empowers writers to generate high-quality, well-structured, coherent written work more efficiently by assisting in error detection, paraphrasing, and language improvement. However, it is crucial for users to strike a balance between utilizing QuillBot's functionalities and preserving their own critical thinking and writing skills. It ensures the tool is optimally utilized while maintaining the writer's independent abilities.

How QuillBot Helps Writers in Overcoming Challenges

Lastly, QuillBot proves to be a valuable tool that assists writers in overcoming various challenges encountered throughout the writing process. One primary benefit is its ability to address linguistic barriers by providing language correction assistance, grammar checking, and suggesting alternative phrasing options (Zulfa et al., 2023).This feature proves especially advantageous for writers, particularly non-native speakers or English as a Foreign Language (EFL) learners, as it aids them in expressing their ideas more accurately and fluently (Syahnaz & Fithriani, 2023).

Furthermore, QuillBot helps writers navigate the complexities of paraphrasing and avoiding plagiarism. By suggesting alternative wordings and rephrasing sentences, QuillBot enables writers to create original content while adhering to academic integrity standards (Ginting et al., 2023). This aspect is crucial in educational settings where plagiarism is a severe concern, and students must demonstrate their ability to produce authentic work (Nurmayanti & Suryadi, 2023). In addition, QuillBot contributes to enhancing the coherence and clarity of writing. Through its grammar and punctuation error detection features, QuillBot helps writers identify and rectify structural inconsistencies, ensuring their writing flows smoothly and is easily comprehensible to readers (Amyatun & Kholis, 2023).

Additionally, QuillBot's paraphrasing suggestions offer writers alternative ways to express ideas more succinctly and effectively, thereby improving the overall coherence of the text (Xuyen, 2023). These findings highlight the need for a balanced approach in utilizing online technologies like QuillBot within the educational context, considering both the benefits and potential drawbacks they may have on academic writing. Further, QuillBot has been found to have positive impacts on various aspects of academic writing. It improves writing fluency by providing suggestions for sentence restructuring, word choice, and synonym selection, enabling writers to express their ideas more effectively and with greater clarity. The study by Yustiana et al. (2024) further supports this, indicating that most students are familiar with QuillBot and use its features on average, with Paraphraser being the most frequently used feature, aiding students in paraphrasing, improving writing quality, and avoiding yplagiarism.

In conclusion, QuillBot plays a vital role in supporting writers in overcoming challenges during the writing process. It offers language correction, paraphrasing suggestions, and error detection features that empower writers to create high-quality, original, coherent written work, enhancing their academic and professional pursuits. However, writers need to utilize QuillBot in conjunction with their critical thinking to maximize its benefits.

Conclusion

In conclusion, the systematic literature review on the use of QuillBot in academic writing has highlighted its potential benefits and identified areas for further research. QuillBot, an advanced AI-powered writing assistant, offers a range of features that can enhance writing quality, efficiency, and fluency. Through suggestions for word choice, sentence construction, and synonym selection, it assists writers in producing content that is cohesive and well-organized. QuillBot also helps save time by lowering the need for substantial human editing by providing paraphrasing recommendations and alternative sentence possibilities. Moreover, it helps writers overcome challenges related to paraphrasing, grammar, and synthesis by providing alternative wording, punctuation, and the ability to summarize texts.

Furthermore, QuillBot provides language suggestions and contextual synonyms, making it a useful tool for non-native English speakers. While research on QuillBot has reported positive outcomes, including improved writing fluency and coherence, there is a need for more studies, including systematic literature reviews, to establish a broader evidence base. Future studies should explore its impact on writing quality and academic achievement, its functionality in different linguistic and cultural contexts, and its potential role in writing instruction.

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