



## **EFL Students' Paraphrasing Challenges in Literature Reviews: Investigation of Quillbot's Mitigating Mechanisms**

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### **Abstract**

This study investigated the paraphrasing challenges faced by EFL students in writing literature reviews for research proposals and examined the effectiveness of QuillBot in addressing these difficulties. Employing an explanatory sequential mixed-methods design, the research first utilized a questionnaire (n=25) to identify common paraphrasing difficulties across four dimensions, followed by semi-structured interviews (n=6) to explore students' experiences with QuillBot. Quantitative findings revealed a high overall level of paraphrasing difficulty (mean=2.58), with paraphrasing strategy emerging as the most challenging dimension (mean=2.69), followed by language use (mean=2.60), structure aspect (mean=2.57), and content aspect (mean=2.48). Specifically, students struggled most with modifying words using synonyms while preserving meaning (mean=2.80) and changing word order in sentences (mean=2.76). Qualitative analysis identified four primary mechanisms through which QuillBot addresses these challenges: Synonym Selection and Vocabulary Enhancement, Sentence Structure Transformation, Sentence Simplification and Condensation, and Mode Selection and Strategy Integration. These mechanisms directly correspond to students' specific difficulties, suggesting that AI-assisted writing tools can provide targeted support for academic writing development. While QuillBot effectively addresses immediate paraphrasing challenges, the study acknowledges the importance of balanced implementation that fosters independent writing skills. This research contributes to understanding how AI tools can mediate the cognitive and linguistic demands of paraphrasing in EFL contexts, with implications for technology-enhanced writing pedagogy in higher education.

**Keywords:** *Academic Writing, EFL Students, Literature Review, Paraphrasing Difficulties, Quillbot, Research Proposal*

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### **INTRODUCTION**

Research proposal writing relies heavily on citing credible sources to support arguments and establish credibility (Ramoroka, 2014). For EFL students, academic writing presents significant challenges, particularly in paraphrasing, a technique of restating someone's thoughts while preserving the original meaning (Bailey, 2014; Howard et al., 2010). Students struggle with recreating sentences in new forms while maintaining content meaning (Ruslan et al.,

2020), as manual paraphrasing requires careful reading, understanding the context, and rewriting in one's own words without altering the meaning (Fitria, 2024). These challenges are compounded by difficulties in expressing ideas effectively, crafting coherent sentences and paragraphs, and mastering grammar and vocabulary (Anaktototy et al., 2024; Patty, 2024).

With technological advancements, online paraphrasing tools like QuillBot have emerged to assist students in overcoming these difficulties. QuillBot uses artificial intelligence to rephrase text, allowing writers to revise and rewrite source information without omitting the original meaning (Fitria, 2021). Research shows that QuillBot can help students summarize complex sentences, reduce plagiarism, and improve language formality (Fitria, 2022; Maulidia & Sulistyaningrum, 2021). These capabilities make QuillBot a potentially valuable tool for EFL students struggling with paraphrasing in academic writing.

Several studies have examined QuillBot's effectiveness in academic writing contexts. Nurmayanti & Suryadi (2023) found that QuillBot helped students produce more coherent texts and reduce plagiarism. Latifah et al. (2024) highlighted its benefits for non-native English speakers through improved grammar and vocabulary. Fitria (2021) noted that students valued QuillBot for providing alternative phrasing and synonyms, Xuyen (2023) reported reduced anxiety and enhanced writing quality among Vietnamese students using QuillBot, and Kurniati & Fithriani (2022) found that post-graduate students experienced improved grammar and expanded vocabulary through QuillBot use. These studies consistently show positive perceptions of QuillBot as a writing assistance tool.

Despite this research, significant gaps remain in the literature. While Nurmayanti & Suryadi (2023) and Kurniati & Fithriani (2022) explored QuillBot's general benefits, they did not categorize specific paraphrasing challenges that students face. Latifah et al. (2024) performed a broad literature review but did not focus specifically on research proposal writing contexts. Although Fitria (2021) examined QuillBot's features, the study did not connect specific features to particular paraphrasing difficulties encountered in literature reviews. Similarly, Xuyen (2023) focused on general perceptions rather than evaluating how QuillBot addresses specific challenges in research writing. A preliminary study with 26 English Education students at Pattimura University confirmed these challenges, with 92.3% reporting difficulties paraphrasing theories and 96.2% using QuillBot as their preferred solution.

This study aims to investigate the primary paraphrasing challenges faced by students in literature reviews of research proposals and examine QuillBot's effectiveness in addressing these challenges. Using an explanatory sequential mixed-methods design, the study first employs questionnaires to identify common paraphrasing difficulties across four categories: content understanding, sentence structure, language use, and paraphrasing strategies. Follow-up interviews explore how students use QuillBot features such as synonym suggestion, sentence restructuring, and voice conversion to overcome these difficulties. By focusing specifically on research proposal writing in an EFL context, this study contributes to understanding how AI tools can assist students in addressing specific paraphrasing challenges in academic writing, valuable knowledge given the increasing reliance on technological tools in education and the need for evidence-based approaches to support academic writing development.

## **LITERATURE REVIEW**

### ***Understanding Literature Review and Paraphrasing Process***

A literature review is a comprehensive theoretical framework that provides a broad overview of a research topic and its variables (Benbellal & Khaldi, 2021). According to Denney & Tewksbury (2013), it serves as a summary of previous research, clarifying the present state of knowledge and identifying areas yet to be explored. The literature review requires students to collect and analyze data from various references such as journals, articles, books, and theses

relevant to their topic (Popenoe et al., 2021). Through literature review, students analyze sources by identifying knowledge gaps and evaluating previous research related to their topic. One critical skill that students must master in this process is paraphrasing, which allows researchers to express knowledge in their own words while avoiding plagiarism.

Paraphrasing refers to using different words to convey what others have said or written while maintaining the original meaning (Alian & Awajan, 2020). This skill is important for preventing plagiarism and demonstrating students' understanding of source texts. According to Wilhoit (2016), an excellent paraphrase requires four key characteristics: thoroughness, accuracy, fairness, and objectivity. Chanpradit et al. (2024) propose several strategies for effective paraphrasing, including substituting synonyms, converting sentences between active and passive forms, and transforming direct quotations into indirect ones. Bailey (2014) further outlines guidelines for paraphrasing, which consist of changing vocabulary, changing word class, and altering word order.

### ***Common Difficulties in Paraphrasing Literature Review***

Students face significant challenges in paraphrasing for academic writing, particularly related to content comprehension, language proficiency, and paraphrasing strategies (Maulidia & Sulistyaningrum, 2021). Regarding content comprehension, Keck (2006) noted that students often struggle with understanding the original text's meaning, leading to ineffective paraphrasing and misrepresentation of source material. Hirvela & Du (2013) point out that students sometimes unintentionally alter the meaning because they focus more on changing words than on understanding and conveying the same ideas. The inability to fully grasp specialized terminology and conceptual relationships in literature reviews represents a significant barrier to effective paraphrasing. Students must understand materials thoroughly before they can successfully rephrase them while maintaining accuracy.

Language proficiency significantly impacts paraphrasing ability, with Al Badi (2015) finding that many students are unable to decode texts and are uncertain about appropriate word choices. Common language-related issues include limited vocabulary, difficulty finding suitable synonyms, and problems with grammar, which can lead to inaccurate representation of source material (Maulidia & Sulistyaningrum, 2021). However, research suggests that paraphrasing strategy limitations constitute the most common difficulty, with Clarin et al. (2023) arguing that students' limited knowledge of paraphrasing strategies makes effective paraphrasing particularly challenging. Flores & Lopez (2019) identified specific problems in students' paraphrasing approaches, including difficulties in restructuring words, modifying words with synonyms, and changing word forms without losing essential meaning. Sun & Yang (2015) found that changing word order was among the least commonly used strategies because it required more effort and skill to ensure grammatical correctness and semantic coherence.

### ***QuillBot as a Solution for Paraphrasing Difficulties in Literature Review***

QuillBot, introduced in 2017, is designed to help users create paraphrases using artificial intelligence technology (Fitria, 2021). The tool offers nine paraphrasing modes that address different difficulties: Standard Mode (preserves meaning while maintaining natural flow), Fluency Mode (improves grammatical construction), Formal Mode (modifies text for academic audiences), Academic Mode (provides specialized terminology), and Creative Mode (substantially alters text for uniqueness), among others. QuillBot features directly relevant to literature review writing include a Synonym Slider (adjusts the level of synonym change), Grammar Checker (corrects errors), Summarizer (condenses text), Citation Generator (creates formatted citations), and Plagiarism Checker (ensures originality). These features directly address the major paraphrasing challenges students face when writing literature reviews by

providing automated assistance with vocabulary enhancement, grammatical restructuring, and sentence reformulation.

Research indicates that QuillBot effectively addresses paraphrasing difficulties in literature review writing by helping students break down complex sentences, improving vocabulary usage, and modeling effective paraphrasing strategies (Syahnaz & Fithriani, 2023). Fitria (2021) found that QuillBot employs various strategies that students struggle to apply independently, including synonym substitution, sentence structure modification, word form changes, and word order rearrangement. While beneficial impacts include content quality improvement, grammar enhancement, and language use refinement (Kurniati & Fithriani, 2022), researchers have also identified important limitations. Asmara & Kastuhandani (2024) caution that excessive QuillBot usage might hinder students' development of independent paraphrasing skills, while Jaladara et al. (2023) warn that this tool can reduce critical engagement with the source material. These findings suggest that while QuillBot can effectively address specific paraphrasing difficulties in literature review writing, it should be used as a learning aid rather than a complete substitute for developing independent academic writing skills.

## **METHODS**

### ***Research Design***

This study employed an explanatory sequential mixed-methods design to investigate the use of QuillBot as a paraphrasing tool in writing a literature review of research proposals. According to Creswell & Creswell (2023), this approach involves collecting quantitative data first, analyzing the results, and then using these findings to inform the subsequent qualitative phase. The quantitative phase employed a survey to identify the most common difficulties faced by students when paraphrasing literature reviews, providing a broad understanding of paraphrasing challenges. The qualitative phase utilized interviews to explore how students use QuillBot to overcome these identified difficulties, allowing for deeper insights into specific strategies and practices. This two-phase approach enabled the researcher first to establish patterns of paraphrasing difficulties through quantitative measurement and then explain these patterns through detailed qualitative exploration of students' experiences with QuillBot.

The explanatory sequential design was particularly appropriate for this study as it allowed for a comprehensive investigation of both research questions. The first phase addressed the question, "What is the most common difficulty faced by students when they paraphrase literature reviews?" through systematic quantitative measurement across multiple dimensions of paraphrasing difficulty. The second phase addressed "How can QuillBot be used to overcome the difficulty?" by building upon the quantitative findings to explore specific mechanisms, strategies, and contexts in which students utilize QuillBot to address their identified paraphrasing challenges. This methodological approach ensured that the qualitative inquiry was guided by empirical findings rather than assumptions, enhancing the validity and relevance of the research outcomes regarding QuillBot's role in overcoming specific paraphrasing difficulties.

### ***Research Participants***

This study was conducted at the English Education Study Program of Pattimura University, focusing on students who had completed the seminar proposal class. The population comprised 40 students from the 2019 academic year cohort who had experience in writing research proposals and were familiar with the challenges of paraphrasing in literature reviews. From this population, a sample of 25 students was selected using non-probability purposive sampling to ensure participants met specific criteria relevant to the research objectives. The sampling criteria included (1) students who identified QuillBot as their

preferred paraphrasing tool in a preliminary study and (2) students who were either currently writing or had already completed their research proposals, ensuring they had practical experience with literature review paraphrasing.

The purposive sampling approach, as described by Palinkas et al. (2015), enabled the researcher to select participants based on their relevance to the research questions rather than random selection. For the qualitative phase, six students were further selected from the 25 survey respondents based on their questionnaire responses, representing diverse perspectives on paraphrasing difficulties and QuillBot usage. This strategic selection ensured that the interview data captured a range of experiences with paraphrasing challenges and the QuillBot application, from those who reported high difficulty levels to those who demonstrated greater facility with paraphrasing tasks. The relatively small but focused sample size allowed for an in-depth exploration of paraphrasing difficulties and QuillBot usage patterns within the specific academic context of research proposal writing at the undergraduate level in an English Education program.

### ***Data Collection and Analysis***

The data collection employed two primary instruments: an online survey questionnaire and semi-structured interviews. The questionnaire, adapted from Maulidia & Sulistyaningrum (2021) with modifications to suit the specific context of this study, contained 15 items measuring paraphrasing difficulties across four dimensions: content (items 1-3), structure (items 4-7), language use (items 8-10), and paraphrasing strategies (items 11-15). The instrument utilized a 4-point Likert scale ranging from Strongly Disagree (4) to Strongly Agree (1), with higher scores indicating greater disagreement with statements describing paraphrasing capabilities, thus reflecting higher difficulty levels. The questionnaire was distributed via Google Forms to all 25 participants to identify patterns of paraphrasing difficulties. For the qualitative phase, semi-structured interviews were conducted with six selected participants via WhatsApp video calls, employing open-ended questions to elicit detailed responses about how QuillBot helped them overcome their specific paraphrasing challenges.

Data analysis followed a sequential approach aligned with the mixed-methods design. Quantitative data from the questionnaire were analyzed using descriptive statistics in Excel, calculating frequencies, percentages, and means for each item and dimension to identify the most common paraphrasing difficulties. Following Jebb's et al. (2021) categorization system, mean scores were classified into four levels: very low (1.00-1.75), low (1.76-2.50), high (2.51-3.25), and very high (3.26-4.00), with higher scores indicating greater paraphrasing difficulties. The qualitative interview data were analyzed using thematic content analysis following Clarke & Braun's (2017) six-phase approach, which involved familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. This analytical strategy enabled the researcher to identify patterns in how students utilized QuillBot to address their specific paraphrasing challenges, connecting these findings with the quantitative results to provide a comprehensive understanding of both the nature of paraphrasing difficulties and the role of QuillBot in overcoming them.

## **FINDINGS**

This section presents the systematic analysis of data collected regarding EFL students' paraphrasing difficulties in writing literature reviews for research proposals and their utilization of QuillBot to overcome these challenges. The findings are organized according to the study's two research questions: (1) the most common difficulties faced by students when paraphrasing literature reviews, and (2) how QuillBot can be utilized to overcome these difficulties.

### *Paraphrasing Difficulties among EFL Students*

The quantitative data analysis from the questionnaire revealed that students experience varying degrees of difficulty across four dimensions of paraphrasing: content aspect, structure aspect, language use, and paraphrasing strategy. Table 1 summarizes the mean scores for each dimension.

**Table 1. Summary of Paraphrasing Difficulties by Dimension**

No.	Dimensions	Mean	Category
1	Content Aspect	2.48	Low
2	Structure Aspect	2.57	High
3	Language Use	2.60	High
4	Paraphrasing Strategy	2.69	High
Overall Mean		2.58	High

The overall mean score of 2.58 indicates that students generally experience a high level of difficulty in paraphrasing literature reviews. Among the four dimensions, paraphrasing strategy emerged as the most challenging aspect, with the highest mean score (2.69), followed by language use (2.60), structure aspect (2.57), and content aspect (2.48).

#### **1. Content Aspect**

The content aspect yielded the lowest mean score (2.48) among all dimensions, categorized as "low difficulty." This suggests that students have relatively better capabilities in understanding the content of original texts. As shown in Table 2, students reported varying levels of difficulty across different content-related paraphrasing tasks.

**Table 2. Difficulties in the Content Aspect**

No	Statement	SD f/%	D f/%	A f/%	SA f/%	Mean	Category
1	I understand the main information of the original text in the literature review before paraphrasing.	3 (12.0)	9 (36.0)	10 (40.0)	3 (12.0)	2.48	Low
2	I can identify the key points in the literature review that need to be paraphrased.	3 (12.0)	5 (20.0)	14 (56.0)	3 (12.0)	2.32	Low
3	I can retain the original meaning of the text in the literature review when paraphrasing.	0 (0.0)	16 (64.0)	9 (36.0)	0 (0.0)	2.64	High
Mean						2.48	Low

Items 1 and 2 scored in the "low difficulty" category, indicating that students generally feel capable of understanding the main information (2.48) and identifying key points for paraphrasing (2.32). For item 1, 40.0% agreed and 12.0% strongly agreed that they could understand the main information, while 36.0% disagreed and 12.0% strongly disagreed. For item 2, a majority (56.0%) agreed, and 12.0% strongly agreed that they could identify key points, while 20.0% disagreed and 12.0% strongly disagreed.

However, item 3 scored in the "high difficulty" category (2.64), revealing that maintaining the original meaning during paraphrasing presents a significant challenge for students. Notably, 64.0% of respondents disagreed that they could retain the original meaning when paraphrasing, while 36.0% agreed, and no respondents either strongly agreed or strongly disagreed with this capability.

#### **2. Structure Aspect**

The structure aspect yielded a mean score of 2.57, categorized as "high difficulty." This indicates that students face considerable challenges in restructuring sentences during paraphrasing. Table 3 presents the detailed findings for this dimension.

**Table 3. Difficulties in the Structure Aspect**

No	Statement	SD f/%	D f/%	A f/%	SA f/%	Mean	Category
4	I can reorganize the sentence structure when paraphrasing the literature review.	4 (16.0)	7 (28.0)	10 (40.0)	4 (16.0)	2.44	Low
5	I can summarize the sentence to be paraphrased.	1 (4.0)	17 (68.0)	7 (28.0)	0 (0.0)	2.76	High
6	I can vary the sentence structure without omitting the meaning of the original text.	1 (4.0)	9 (36.0)	15 (60.0)	0 (0.0)	2.44	Low
7	I can change the active sentence into the passive sentence.	0 (0.0)	17 (68.0)	7 (28.0)	1 (4.0)	2.64	High
<b>Mean</b>						<b>2.57</b>	<b>High</b>

Items 5 and 7 received the highest difficulty scores in this dimension. For item 5, students reported high difficulty in summarizing sentences (2.76), with a significant majority (68.0%) disagreeing and 4.0% strongly disagreeing that they could summarize sentences effectively, while 28.0% agreed. For item 7, students reported high difficulty in converting active sentences to passive ones (2.64), with 68.0% disagreeing that they could change active sentences into passive sentences, while 28.0% agreed, and 4.0% strongly agreed.

Conversely, they reported lower difficulty levels in reorganizing sentence structure (item 4, 2.44) and varying sentence structure without omitting meaning (item 6, 2.44). For item 4, responses were more evenly distributed, with 16.0% strongly disagreeing, 28.0% disagreeing, 40.0% agreeing, and 16.0% strongly agreeing. For item 6, 60.0% agreed that they could vary sentence structure without omitting meaning, while 36.0% disagreed and 4.0% strongly disagreed.

### 3. Language Use

The language use dimension had a mean score of 2.60, categorized as "high difficulty." This suggests that students struggle significantly with the linguistic aspects of paraphrasing. Table 4 details the findings for this dimension.

**Table 4. Difficulties in Language Use**

No	Statement	SD f/%	D f/%	A f/%	SA f/%	Mean	Category
8	I know how to use the grammar correctly.	0 (0.0)	16 (64.0)	8 (32.0)	1 (4.0)	2.60	High
9	I know how to use appropriate vocabulary.	0 (0.0)	13 (52.0)	11 (44.0)	1 (4.0)	2.48	Low
10	I can find synonyms for words to change the original text into a paraphrase.	0 (0.0)	18 (72.0)	7 (28.0)	0 (0.0)	2.72	High
<b>Mean</b>						<b>2.60</b>	<b>High</b>

Items 8 and 10 scored in the "high difficulty" category, indicating that students struggle with using correct grammar (2.60) and finding appropriate synonyms (2.72). For item 8, 64.0% of respondents disagreed that they knew how to use grammar correctly, while 32.0% agreed and 4.0% strongly agreed. For item 10, a substantial 72.0% of respondents disagreed that they could find synonyms effectively, while 28.0% agreed.

Item 9 scored in the "low difficulty" category (2.48), suggesting that students have less difficulty with vocabulary selection compared to other language use aspects. However, 52.0% still disagreed with having this capability, while 44.0% agreed, and 4.0% strongly agreed.

#### 4. Paraphrasing Strategy

The paraphrasing strategy dimension yielded the highest mean score (2.69) among all dimensions, categorized as "high difficulty." This indicates that applying effective paraphrasing strategies presents the most significant challenge for students. Table 5 presents the detailed findings for this dimension.

**Table 5. Difficulties in Paraphrasing Strategy**

No	Statement	SD f/%	D f/%	A f/%	SA f/%	Mean	Category
11	I can paraphrase by simplifying sentences	1 (4.0)	18 (72.0)	4 (16.0)	2 (8.0)	2.72	High
12	I can combine strategies in paraphrasing	0 (0.0)	15 (60.0)	9 (36.0)	1 (4.0)	2.56	High
13	I can use active or passive sentences in paraphrasing	0 (0.0)	17 (68.0)	6 (24.0)	2 (8.0)	2.60	High
14	I can change the order of words in sentences when paraphrasing	3 (12.0)	14 (56.0)	7 (28.0)	1 (4.0)	2.76	High
15	I can modify words with synonyms while preserving the original meaning	1 (4.0)	19 (76.0)	4 (16.0)	1 (4.0)	2.80	High
<b>Mean</b>						<b>2.69</b>	<b>High</b>

All items in this dimension scored in the "high difficulty" category. Item 15 (modifying words with synonyms that preserve the original meaning) received the highest score (2.80), with a substantial 76.0% of respondents disagreeing and 4.0% strongly disagreeing that they could modify words with synonyms while preserving meaning. In comparison, only 16.0% agreed, and 4.0% strongly agreed.

Item 14 (changing the order of words in sentences) followed with a score of 2.76, with 56.0% disagreeing and 12.0% strongly disagreeing that they possessed this capability, while 28.0% agreed and 4.0% strongly agreed. For item 11 (paraphrasing by simplifying the sentence), 72.0% disagreed, and 4.0% strongly disagreed, while 16.0% agreed and 8.0% strongly agreed, resulting in a score of 2.72.

Items 13 (paraphrasing by using active or passive sentences) and 12 (combining strategies in paraphrasing) received scores of 2.60 and 2.56, respectively. For item 13, 68.0% disagreed with having this capability, while 24.0% agreed and 8.0% strongly agreed. For item 12, 60.0% disagreed, while 36.0% agreed and 4.0% strongly agreed.

These findings indicate that students face substantial challenges in applying various paraphrasing strategies, particularly those requiring vocabulary manipulation and sentence restructuring.

#### *Strategic Applications of QuillBot in Addressing Paraphrasing Challenges*

The qualitative analysis of interview data from six participants revealed distinct strategies through which QuillBot addresses the paraphrasing difficulties identified in the quantitative findings. Following Braun and Clarke's (2012, 2016) six-phase thematic analysis approach, four primary strategies emerged from the data: Synonym Selection and Vocabulary Enhancement, Sentence Structure Transformation, Sentence Simplification and Condensation, and Mode Selection and Strategy Integration. This section presents how each strategy addresses specific paraphrasing challenges in order of difficulty severity.

##### **1. Synonym Selection and Vocabulary Enhancement**

The interview data revealed that QuillBot's synonym selection and vocabulary enhancement capabilities directly address two significant paraphrasing challenges: modifying



words with synonyms while preserving meaning (paraphrasing strategy difficulty, 2.80) and finding appropriate synonyms to change the original text (language use difficulty, 2.72).

Regarding the modification of words with synonyms while preserving meaning, which 80.0% of students found challenging, QuillBot offers contextually appropriate alternatives that maintain semantic equivalence. Student AH emphasized the selective nature of this feature: *"QuillBot provides the feature where the user can select the words of synonyms based on the writing they want to paraphrase."* This control over synonym selection enables students to exercise critical judgment while benefiting from AI-generated alternatives. As Student AH further elaborated: *"The feature to examine the synonyms by myself, because I can eliminate the words that are inappropriate to my purpose of paraphrasing."* This suggests that QuillBot facilitates not only the mechanical process of synonym substitution but also the development of discriminative vocabulary selection skills.

Concerning the difficulty in finding appropriate synonyms, reported by 72.0% of students, QuillBot provides vocabulary expansion opportunities that extend beyond immediate paraphrasing tasks. Student SE specifically described this benefit: *"The way QuillBot helps me in paraphrasing is by providing many similar synonyms according to the words in my writing, so it does not change the original meaning."* Student KS noted the educational value of this feature: *"I also get much new vocabulary when I paraphrase my sentence."* At the same time, Student AH similarly reported: *"I can get the opportunity to get to know many formal words that are new to me."* These responses indicate that QuillBot addresses both immediate synonym-finding challenges and facilitates vocabulary acquisition that may improve long-term paraphrasing capabilities.

The effectiveness of this strategy was further confirmed by Student 2 (AH), who stated: *"I used to use QuillBot frequently to fix the vocabulary that I used because I sought formal vocabulary. I used QuillBot to provide the best possible assistance."* This suggests that QuillBot's synonym selection capabilities are particularly valuable for achieving appropriate registers in academic writing contexts like literature reviews.

## **2. Sentence Structure Transformation**

QuillBot's sentence structure transformation capabilities address three significant paraphrasing challenges: changing word order in sentences (paraphrasing strategy difficulty, 2.76), changing active sentences to passive voice (structure difficulty, 2.64), and using grammar correctly (language use difficulty, 2.60).

For the challenge of changing word order in sentences, which 68.0% of students found difficult, QuillBot provides automated restructuring while maintaining semantic coherence. Student RAM explicitly described this functionality: *"QuillBot helps me in paraphrasing by changing the sentence while keeping the original meaning. It is because QuillBot changes the word order of the sentence, but the result still has the same meaning as the original."* Student SR similarly emphasized this capability: *"Because of its easy-to-use interface, various paraphrasing modes, and its ability to retain the original meaning of the text while changing the order of the words."* These testimonies suggest that QuillBot effectively addresses word-order restructuring challenges by providing models of syntactically valid sentence transformations.

Regarding the difficulty in changing active sentences to passive voice, reported by 68.0% of students, multiple participants confirmed QuillBot's effectiveness in voice conversion. Student SE explicitly stated: *"The way QuillBot helps me in paraphrasing is by providing many similar synonyms according to the words in my writing so it does not change the original meaning, then giving many vocabularies, converting active sentences into passive and vice versa."* Student RMS similarly noted: *"the way QuillBot gives paraphrase to my writing by giving synonyms, changing active sentences to passive."* These responses indicate that QuillBot

facilitates a grammatical transformation that students otherwise find challenging to execute independently.

For grammatical accuracy challenges, reported by 64.0% of students, QuillBot provides automated correction that improves the linguistic quality of the paraphrased text. Student KS explicitly mentioned this benefit: *"It helps me to polish my grammar,"* while Student RAM noted that QuillBot *"can help to improve my grammar, vocabulary, and sentence clarity, making my literature review easier to understand."* These comments suggest that QuillBot addresses grammatical difficulties by implementing corrections that may also serve as models for future writing.

### **3. Sentence Simplification and Condensation**

QuillBot's sentence simplification and condensation features address two significant paraphrasing challenges: summarizing sentences (structure difficulty, 2.76) and simplifying sentences (paraphrasing strategy difficulty, 2.72).

For the challenge of summarizing sentences, which 72.0% of students found difficult, QuillBot provides automated condensation capabilities. Student RMS explicitly described this functionality: *"The way QuillBot gives a paraphrase to my writing by giving synonyms, changing active sentences to passive, and making my sentences shorter while keeping the original meaning."* The ability to reduce sentence length while preserving essential content directly addresses a key structural paraphrasing challenge.

Regarding sentence simplification difficulties, reported by 76.0% of students, participants highlighted QuillBot's capacity to reduce complexity without sacrificing meaning. Student RAM noted: *"This tool is excellent for simplifying technical or complex language to be more easily understood without losing the essence of the main language of the original text."* Student SR similarly observed that QuillBot *"can help to improve the clarity of writing by simplifying complex sentences and changing the writing style to be more formal or informal."* Student RMS specifically mentioned feature specialization for this purpose: *"This is because QuillBot has some modes which can shortly paraphrase my writing but have the same meaning."* These testimonies indicate that QuillBot effectively models sentence simplification techniques that students struggle to implement independently.

The value of this strategy was further confirmed by Student 3 (SE), who stated that QuillBot helps *"improve sentence structure without changing the original text,"* suggesting that the tool's simplification capabilities maintain content integrity while enhancing structural clarity.

### **4. Mode Selection and Strategy Integration**

QuillBot's mode selection and strategy integration capabilities address two significant paraphrasing challenges: combining strategies in paraphrasing (paraphrasing strategy difficulty, 2.56) and achieving appropriate register and style (language use difficulty, linked to vocabulary selection, 2.48).

For the challenge of combining paraphrasing strategies, which 60.0% of students found difficult, QuillBot's specialized modes facilitate the integration of multiple techniques. Student 6 (RAM) explicitly described this functionality: *"I like the paraphrasing because QuillBot provides several paraphrasing modes, such as 'Fluency,' 'Formal,' and 'Creative,' which allow me to choose a paraphrasing style that suits the context and purpose of my writing."* Student 4 (SR) similarly noted: *"Some of the features of QuillBot that are often considered useful according to individual needs, such as standard, creative, or formal mode."* These responses indicate that QuillBot's mode-based approach enables students to implement complex paraphrasing strategies that would otherwise require advanced writing skills.

Regarding stylistic appropriateness, participants highlighted QuillBot's ability to adjust the register according to academic requirements. Student 1 (KS) specifically mentioned this capability: *"The specific feature that overcame my paraphrasing issues is the feature that enables the user to alter the sentence into a formal, informal research tone. It enables the user to adjust the paragraph into what the user wants."* Student 5 (RMS) similarly identified *"Paraphrase fluency level"* as particularly helpful, while Student 3 (SE) specifically mentioned *"the free modes like fluency"* as beneficial for their paraphrasing needs.

The holistic benefits of this strategy were emphasized by Student 2 (AH), who reported: *"By using this tool, the clarity of my proposal writing is good enough to get acceptance from my advisor to be examined in the proposal seminar."* This suggests that QuillBot's integrated approach to paraphrasing strategy implementation produces tangible improvements in academic writing quality that meet institutional standards.

## DISCUSSION

The findings of this explanatory sequential mixed-methods study reveal significant insights regarding the paraphrasing challenges faced by EFL students in writing literature reviews and the efficacy of QuillBot in addressing these difficulties. Quantitatively, students demonstrated a high overall level of difficulty in paraphrasing (mean=2.58), with paraphrasing strategy emerging as the most challenging dimension (mean=2.69), followed by language use (mean=2.60), structure (mean=2.57), and content (mean=2.48). The qualitative analysis identified four primary strategic applications of QuillBot that correspond directly to these challenging dimensions: Synonym Selection and Vocabulary Enhancement, Sentence Structure Transformation, Sentence Simplification and Condensation, and Mode Selection and Strategy Integration. These findings establish a clear relationship between specific paraphrasing challenges and technological interventions, suggesting that AI-assisted writing tools can effectively address the multifaceted difficulties students encounter when paraphrasing academic content.

The predominance of the paraphrasing strategy as the most challenging dimension aligns with theoretical conceptualizations of paraphrasing as a complex cognitive process requiring multiple simultaneous skills (Bailey, 2014; Wilhoit, 2016). Notably, 80% of participants struggled with modifying words using synonyms while preserving the original meaning (mean=2.80), and 76% reported difficulty in changing word order (mean=2.76). These findings substantiate Clarin et al.'s. (2023) assertion that limited knowledge of paraphrasing strategies represents a fundamental barrier to effective academic writing. The high difficulty levels in applying various paraphrasing techniques, including synonym substitution, sentence restructuring, and voice conversion, indicate that students' challenges extend beyond basic language proficiency issues to encompass higher-order writing skills that require strategic application of linguistic knowledge. Moreover, the relatively lower difficulty in understanding content (mean=2.48) compared to implementing paraphrasing strategies suggests that comprehension alone is insufficient for effective paraphrasing, corroborating Hirvela & Du (2013) observation that students may understand source material but still struggle to reformulate it appropriately.

QuillBot's effectiveness in addressing these challenges can be attributed to its multifunctional capabilities that directly correspond to students' specific difficulties. The interview data revealed that QuillBot's synonym selection feature addresses vocabulary enhancement challenges by providing contextually appropriate alternatives while allowing users to exercise critical judgment, as evidenced by Student AH's comment that QuillBot enables users to *"select the words of synonyms based on the writing they want to paraphrase."* Similarly, the sentence structure transformation capabilities effectively address difficulties in changing word order and converting between active and passive voice, with Student RAM

noting that QuillBot helps by "changing the sentence while keeping the original meaning." The tool's sentence simplification features correspond to students' challenges in summarizing and simplifying complex academic language. At the same time, the various paraphrasing modes facilitate the integration of multiple techniques that 60% of students found difficult to implement independently. These findings extend Fitria's (2021) observation that QuillBot employs various strategies that students struggle to apply independently. This suggests that AI-assisted writing tools may function as scaffolding mechanisms that model effective paraphrasing techniques.

These results both corroborate and extend previous research on QuillBot's efficacy in academic writing contexts. The findings align with Nurmayanti & Suryadi's (2023) conclusion that QuillBot helps students produce more coherent texts and reduces plagiarism while providing additional insight into the specific mechanisms through which these improvements occur. Similarly, the results support Kurniati & Fithriani's (2022) observation that post-graduate students experience improved grammar and vocabulary through QuillBot use while offering a more granular analysis of how these benefits address specific paraphrasing challenges in literature review writing. However, unlike Latifah et al.'s (2024) broad literature review, this study provides empirical evidence linking specific QuillBot features to particular paraphrasing difficulties in the context of research proposal writing. Additionally, while Xuyen (2023) reported reduced anxiety among Vietnamese students using QuillBot, the present study extends this finding by demonstrating how specific features of the tool contribute to increased confidence through targeted assistance with challenging paraphrasing tasks, particularly in the literature review section of research proposals.

The theoretical implications of these findings suggest a need to reconceptualize the role of AI tools in academic writing pedagogy. Rather than viewing these technologies as mere conveniences or potential threats to learning, the results indicate that tools like QuillBot can serve as instructional scaffolds that model effective paraphrasing strategies while allowing students to maintain agency in the writing process. This perspective aligns with Vygotsky's zone of proximal development concept, suggesting that AI-assisted writing tools may bridge the gap between students' current abilities and their potential development levels (Ghimire et al., 2024). Practically, these findings have significant implications for writing instruction in EFL contexts. Educators might consider incorporating AI tools like QuillBot as complementary resources in writing courses, using them to demonstrate effective paraphrasing techniques while emphasizing critical evaluation of AI-generated suggestions. However, as cautioned by Asmara & Kastuhandani (2024), instructors should be mindful of potential overreliance on these tools and implement balanced approaches that foster independent writing skills while leveraging technological assistance.

Despite its contributions, this study has several limitations that should be acknowledged. The sample size of 25 participants for the quantitative phase and six participants for the qualitative phase limits the generalizability of the findings, particularly to other educational contexts or student populations. Additionally, the self-reported nature of the questionnaire data may introduce response biases, potentially affecting the reliability of the difficulty ratings. The purposive sampling approach, which selected only students who had previously identified QuillBot as their preferred paraphrasing tool, may have introduced selection bias that could inflate positive perceptions of the tool's effectiveness.

Moreover, the adapted questionnaire instrument requires validation within the Indonesian EFL context, as reliability coefficients were not established for this specific population. The absence of control groups and the reliance solely on descriptive statistics limit the ability to make causal inferences about QuillBot's effectiveness compared to alternative approaches or no intervention. Furthermore, the study focused exclusively on the positive applications of QuillBot without conducting a comparative analysis of potential drawbacks or

measuring actual improvements in writing quality. The study also did not address important academic integrity considerations related to AI tool usage in academic writing contexts. This represents a critical gap given ongoing debates about appropriate technology use in higher education.

## CONCLUSION

This study has demonstrated that paraphrasing in literature reviews presents substantial challenges for EFL students, particularly in implementing effective paraphrasing strategies, mastering appropriate language use, and manipulating sentence structures. The findings reveal that QuillBot addresses these challenges through four distinct mechanisms: Synonym Selection and Vocabulary Enhancement, Sentence Structure Transformation, Sentence Simplification and Condensation, and Mode Selection and Strategy Integration. These mechanisms directly correspond to students' specific difficulties, suggesting that AI-assisted writing tools can provide targeted support for academic writing development. The correlation between QuillBot's features and students' reported challenges indicates that technological interventions can effectively address the cognitive and linguistic demands of paraphrasing in research proposal writing. This study contributes to the growing body of research on technology-enhanced academic writing by providing empirical evidence of the specific ways in which AI tools mediate paraphrasing difficulties in EFL contexts.

While acknowledging the potential benefits of QuillBot in academic writing pedagogy, this research also recognizes the importance of balanced implementation that fosters independent writing skills. Future research should investigate the long-term impacts of AI-assisted writing tools on students' paraphrasing abilities through longitudinal studies with larger, more diverse samples. Additionally, experimental designs comparing writing quality before and after QuillBot implementation would provide more objective measures of its effectiveness. Further investigation into optimal pedagogical frameworks for integrating AI tools in writing instruction would also benefit educational practice. As AI technologies continue to evolve, understanding their role in supporting academic writing development remains crucial for developing evidence-based approaches to EFL writing pedagogy that maximize the benefits of technological assistance while cultivating students' independent writing competence.

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