Examining EFL Students' Motivation Level in Using QuillBot to Improve Paraphrasing Skills

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Abstract

Paraphrasing, being an essential component of academic writing skills, poses a challenge for EFL students. It requires motivation through integration of technology and artificial intelligence-mediated tool like QuillBot to address the issue. QuillBot, the online artificial intelligence tool, has the potential to assist and motivate students to improve their paraphrasing skills. This study, to address the scarcity of the available literature especially in Najran University context, aims to examine EFL students' motivation using QuillBot to improve their paraphrasing skills. To achieve the study objectives, the descriptive-diagnostic research design was followed. One hundred two students registered in Technical Writing course were the participants to respond to a questionnaire and semi-structured interview questions. The study explores whether there is any significant difference in the participants' responses in terms of their gender. The results revealed that QuillBot highly motivated students to improve their paraphrasing skills from their point of view. Also, it was shown that gender influenced the respondents' answers in favor of females. Additionally, the content analysis showed that technology-mediated classrooms, personal digital gadgets, easy access to software and internet applications, proper guidance (how to use the AI tool to solve the paraphrasing exercises of the syllabus) to use AI etc. are factors that highly motivate EFL students to utilize QuillBot in improving their paraphrasing skills. The potential implications of these resources are to make writing classes more enjoyable, engaging, interactive, productive, and lively for students. Based on the findings, the study suggests EFL teachers use QuillBot to enhance paraphrasing skills, inspire students, adapt teaching methods to technology, while future research is recommended to explore essay and summary writing.

Keywords: QuillBot, EFL students, paraphrasing, descriptive-diagnostic research, motivation

1. Introduction

Paraphrasing, being an indispensable constituent of academic writing skills, poses a challenge for EFL students. The challenge could be addressed by the motivated students through an integration of technology and artificial intelligence-mediated tool like QuillBot. There is no doubt that motivation plays a significant role in all walks of life with no exception of teaching and learning situations. Motivation drives a person to make specific decisions, take action, exert effort, and persist in activity (Dornyei, 2011). Motivation has been identified as a critical aspect in affecting the success of learning (Ryan & Deci, 2000). Motivation influences writing (Lam & Law, 2007; LaSalle, 2015; Lo & Hyland, 2007; Mo, 2012). LaSalle (2015) also discovered that motivation fostered in academic writing classes aided in the improvement of students' abilities to compose five-paragraph essays. There are possibilities that motivation will affect other aspects of writing skills too. For example, paraphrasing is one of the most challenging tasks for EFL students, as it requires students to have a strong grip on grammar, vocabulary, sentence structure, etc. According to Na et al. (2017), paraphrasing is a critical talent in academic writing and is a cognitive skill that requires both excellent reading and writing abilities and higher-order thinking. Students frequently struggle with paraphrasing because they simply want to repeat the original text (O'Reilly, 2012). One of the most difficult aspects of academic writing, paraphrasing, which many students find difficult, is where the problems with academic writing begin. Sarair et al. (2019) observed in their research on paraphrasing skills that the students were still unable to paraphrase English texts despite many efforts. Consequently, there have been many efforts to improve the paraphrasing skills of students.

Technology integration into EFL writing classrooms is one of the efforts that has not only improved the writing skills of students but also motivated them to participate in teaching and learning situations to a great extent. Many online tools helped improve writing especially the paraphrasing skills. For example, Alsmari (2019) used Edmodo, a Web 2.0 tool, to develop EFL Saudi students' paragraph writing skills. The tool was proven quite effective in strengthening the writing abilities of EFL students up to the paragraph level. Edmodo also improved students' knowledge and motivation to learn. Many language teachers believe that technology has the potential to benefit EFL

learners in a variety of sectors (Roblyer & Edwards, 2000). QuillBot, a system that employs artificial intelligence (AI) to provide phrasing ideas, is one of the most popular free paraphrase tools (Dale, 2020). When teachers and students lack the time and motivation to paraphrase manually, QuillBot provides an alternative by doing it for them (Kusuma, 2020; Kinga & Gupta, 2021). QuillBot is an application that rewrites text without changing its original meaning, replacing specific words, phrases, sentences, or paragraphs while maintaining the text's overall sense (Fitria, 2022).

2. Theories and Approaches of the Study

Studies suggest that AI-mediated IT tools like QuillBot and other advanced pedagogical applications can enhance students' writing and paraphrasing skills (Nurul & Siti, 2021). Studies indicate that students' motivation is a crucial factor in enhancing their academic efficacy, particularly in writing skills (Lam & Law, 2007). Moreover, there are notions that a person's degree of motivation is influenced by her/his goal aspiration. Nicholls (1984) defines achievement goal theory that contends a person's level of motivation to accomplish a goal that is impacted by their goal orientation. He lists four goal orientations: mastery approach, mastery avoidance, performance approach, and performance avoidance. The current study exemplifies the mastery approach (to complete a task for the purpose of self-improvement and learning as much as possible) since the students used the technology-mediated AI tool QuillBot to perform a task (paraphrasing a text) for self-improvement. The achievement goal theory is the foundation for the notion of motivating atmosphere (Ames, 1992). Achievement goal theory aims to motivate students to perform better, but mastery goals are more effective in encouraging motivation and effort even when students perform poorly (Butler, 2006). The study links Nicholls's theory to mastery goals, focusing on how AI tool QuillBot helps students stay motivated and take ownership of their learning. Goal theory addresses difficulties in students' writing skills, as they are not particularly skilled in this area. They set objectives to improve paraphrasing skills, fostering a growth mindset that believes learning is not innate but can be enhanced through hard work and perseverance (Buluş, 2011; Grant & Dweck, 2003). In the same vein, there is no denying that QuillBot has significantly improved students' writing abilities in general and their paraphrasing abilities in particular. There have been several studies dealing with various aspects and features of QuillBot. However, there has hardly been any research dealing with the motivation level of students in using QuillBot to improve paraphrasing skills, especially at Najran University. This research is an effort to focus on this most neglected area and meet the following objectives:

1. To examine EFL students' motivation level in using QuillBot to improve paraphrasing skills.

2. To detect any differences in the participants' responses attributed to their gender.

3. To discover the factors that motivate students to utilize QuillBot to enhance their paraphrasing skills.

3. Literature Review

There have been several researches dealing with the motivation level of students in a writing classroom. Cahyono and Rahayu (2020) conducted a study on motivation, a key element influencing second language learning success in achieving a goal successfully. The findings of this study suggested that the EFL students who had a higher level of motivation in writing had better writing proficiency. Pintrich, et al. (2003) conducted a theoretical research on the achievement goal theory. They described it as one of the most important theoretical frameworks for comprehending student motivation. The theory has positive effects on engagement, learning, and performance in academic settings (Pintrich, et al., 2003; Pintrich & Schunk, 2002).

Goal achievement, in terms of improving paraphrasing through IT mediated AI tool Quillbot as in case of the present study, plays an important role that cannot be achieved until students are motivated enough. According to Nicholls (1984), achievement goal theory asserts a person's motivation to attain a goal influenced by their goal orientation. In case of present study, goal is to improve paraphrasing skills using QuillBot. Studies suggest that achievement goals have long been a part of achievement motivation research. With over 30 years of research, Achievement Goal Theory has been conceptualized in multiple models, and the constructs have proportionally altered with each succeeding presentation (Maehr & Zusho, 2009). Despite the ever-changing theories, academics generally agree that the idea of competence is important to the theory. In this context, competence is defined as the capacity to accomplish something effectively, sufficiently, or successfully. Achievement goals, according to Achievement Goal Theory, are future-oriented and are considered as cognitive representations of desired outcomes (Hulleman et al., 2010). All these factors play an inevitable role in motivating students as is evident in the available literature. For example, Lam and Law (2007) studied the effect of writing instructional techniques on student motivation and writing proficiency with 6 teachers and 209 students. The findings of the qualitative and quantitative data suggest that students' motivation helps to improve their writing proficiency.

Similarly, Mo (2012) surveyed the teaching of ESL writing in five Chinese institutions using questionnaires, interviews, and sample collection methods. According to the survey results, students' deficiencies in English writing are caused by personal and instructional factors such as ineffective teaching, students' lack of interest in writing, students' poor linguistic competence, students' lack of cultural knowledge of the target language, and so on. When teaching college English Writing, the teacher should excite students, integrate reading and writing, and provide effective feedback.

Accordingly, LaSalle (2015) conducted research between the middle and end of the academic year and found that the academic writing class's emphasis on motivation helped students' ability to compose a five-paragraph essay. Lo and Hyland (2007) researched young ESL authors in Hong Kong. The study reveals that a new writing program significantly boosts students' engagement and motivation, particularly among underachieving students, by focusing on relevant themes.

In another study, Gupta and Woldemariam (2011) analyzed a study to look at the effect of motivation and attitude on the use of writing strategies by undergraduate EFL students at Jimma University, Ethiopia. They used a triangulation methodology, which included qualitative interviews, conversational narratives, and student questionnaires. They discovered that motivated students most frequently used writing strategies and displayed high levels of satisfaction, confidence, perceived competence, and positivity toward effective teaching methods for writing. The researchers concluded that employing writing techniques results in the improvement of writing proficiency.

Motivation, as the above mentioned studies exemplify, plays an inevitable role in a writing class. In advanced-level writing classes, the role of motivation cannot be neglected to improve the difficult areas of writing skills, especially paraphrasing skills that encompass several aspects and components of language. Technological integration into the EFL classroom motivates students to do well in paraphrasing. Various AI tools have been used in this regard and the contribution of the QuillBot in motivating students cannot be avoided.

In the same context, Amanda et al. (2023) did a quantitative study to define the role of QuillBot in assisting English Foreign Language (EFL) writers. Data was gathered using questionnaires and interviews, which were subsequently gathered and analyzed. The results show that students were generally positive about using QuillBot to improve writing and that they had discovered QuillBot's many student-friendly features.

In a similar study, Rakhmanina and Serasi (2022) conducted a study using observation to assess QuillBot's impact. They found QuillBot's strengths include automatic sentence rewriting, alternative vocabulary input, and easy-to-add paraphrase options.

In another study, Fitria's (2022) used observation to assess QuillBot's effectiveness in paraphrasing students' scientific writing, finding it an effective alternative tool for those unable to manually paraphrase.

The literature review highlights the importance of motivation in writing classrooms and the integration of AI tool like QuillBot for improving paraphrasing skills which help in formulating the concept of the present study. The present study also stresses on the same aspect and rationalizes on its necessity as there has hardly been any study in Najran University on the integration of AI tool like QuillBot for improving paraphrasing skills. The study also aims to explore gender differences and answer these questions:

1. To assess QuillBot's impact on EFL students' motivation for paraphrasing improvement?

2. To determine if there are significant gender-related differences in the responses of the participants

3. to identify the factors that motivate students to utilize QuillBot to improve their paraphrasing abilities?

4. Methods

4.1 Research Design

The study employed the descriptive-diagnostic method design. Descriptive research design is a crucial method utilized by scientists to provide a detailed and accurate understanding of a specific population or phenomenon (Creswell, 2017). The data was collected through a questionnaire and a semi-structured interview.

4.1.1 Population and Sample of the Study

The study was applied to students of writing courses (170) in the Preparatory Year in 2023. The researchers used the convenience sampling to draw the study sample, which included (60%) of the study population. The total number of respondents was (102). The link to the study tool (questionnaire) was shared with the study population through their teachers, Blackboard (a web-based virtual learning environment and learning management system), and WhatsApp groups. The students are aspiring professionals in the fields of medicine, engineering, and computer science. They belonged to the 16 to 20-year-old age group. They are higher secondary school graduates, mostly from Najran, Saudi Arabia. They are all citizens of Saudi Arabia, and both males and females made up the demographic sample. Table 1 displays the study sample's distribution based on the study's variables.

Table 1. The gender distribution of the study sample

Variable	Group	No.	%
Gender	Male	52	51.0
	Female	50	49.0
Total		102	100

4.1.2 Ethical Approval and Informed Consent

The study sought ethical approval and Najran University's ethics committee approved with reference number 011078-024177-DS. Students were informed about the research process, asked to voluntarily participate, and had the option to opt-out. They were assured that participation would not provide any benefits, and their information would be kept confidential. They were also instructed to contact researchers for further information and clarification. Additionally, a written informed consent was obtained from the participants.

4.1.3 Research Instruments

The researchers used a questionnaire and semi-structured interview to collect the data to answer the research questions.

A. Questionnaire

The questionnaire contains 10 items, which were based on key elements of the paraphrasing through QuillBot. The items focused on how students felt while dealing with the most complicated parts of paraphrasing and how QuillBot facilitated their journey and proved to be a motivating factor. A closed-item questionnaire was utilized to examine how motivated EFL students were to use QuillBot to improve their paraphrasing skills. According to their teaching experience and literature review (Cahyono & Rahayu, 2020; Fitria 2021), the researchers created the questionnaire. The choice of the questionnaire to collect data lines up with Creswell (2012), who believes that "surveys help identify important beliefs and attitudes of individuals" (p.06). There were two sections to the questionnaire. The first section contains participants' demographic information containing 4 items. In the second section, there were 10 statements about the motivation of EFL students to use QuillBot to develop their paraphrasing skills. The questionnaire took about 20 minutes to finish on average. The questionnaire used the Likert scale with five responses: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree.

B. Semi-structured interview

In addition, the semi-structured interview was conducted to know factors that can motivate students in the writing classroom, especially in the context of paraphrasing skills. It was conducted to report on students' observations on how they could be motivated to learn to paraphrase in the classroom. The interview questions/contents were developed based on the researchers' teaching experience and consultation with previous studies (Chiu et al., 2023, Cahyono & Rahayu, 2020, Yashima et al., 2009, Gupta & Woldemariam, 2011). The second researcher conducted a semi-structured interview that lasted approximately 5-10 minutes for each participant. Finally, the data from the interview was content-analyzed following Braun and Clarke's (2006) model for analyzing qualitative data.

The semi-structured interview questions are as follows:

1. Why do you think that technology-mediated classrooms can motivate you to improve paraphrasing skills?
2. What features do the gadgets have that encourage you to use AI tools?
3. How does the availability of language learning applications influence your choice to focus on certain paraphrasing aspects?
4. How do you think that encouragement by the teachers plays a significant role in motivating you?
5. Do you think that proper guidance on AI tools may stimulate you in a writing class in terms of learning paraphrasing skills?

4.2 Validity

A jury of experts (n = 9) with expertise in technology-assisted language learning and extensive teaching experience validated the study tool (questionnaire). The jury of experts evaluated the tools' ability to gather data to respond to the study's questions and fulfill its goals. Additionally, the jury specified some problems of language and wordiness. After evaluating the tools, the jury determined that the tools could respond to the research questions and made the following suggestions about language and wordiness:

1. The jury of experts suggested using words and expressions, which represent the motivation level of students with the tool.
2. The jury advised to include 10 items instead of 8.
3. The jury suggested improving the syntactic and semantic aspects of language.
4. The jury advised to stimulate students to come up with the factors that motivate students in paraphrasing.

A separate exploratory sample (no. 25) taken from outside the main study sample was used to test the questionnaire's internal consistency. The researchers then determined the Pearson's correlation coefficient between the individual items and the overall score. Table 2 displays the results.

Table 2. Pearson's correlation coefficient between items with the total score

Item	Correlation coefficient	Sig.	Item	Correlation coefficient	Sig.
1	.680**	.001	6	.669**	.001
2	.645**	.002	7	.659*	.002
3	.715**	.000	8	.714**	.000
4	.774**	.000	9	.738**	.000
5	.813**	.000	10	.688**	.001

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 2 demonstrates the Pearson correlation coefficients between the items and the total score were statistically important at the significance level (0.01). Pearson correlation coefficients between the items and the total score ranged between (0.645** - 0.813**) and were significant at (0.01). These values indicate the questionnaire's validity to achieve the study objectives.

4.3 Reliability

Test-retest and Cronbach's Alpha were two methods employed by the researchers to evaluate the validity of the questionnaire. A survey sample of (25) students who were not part of the study's core sample were given the questionnaire. Table 3 presents the reliability coefficients.

Table 3. Cronbach's alpha reliability coefficient and test-retest coefficient on the total score of the tool:

No.	Domain	Test-retest	Cronbach's alpha
	Total	0.89	0.87

Table 3 shows that the reliability coefficient by test-retest as a whole was (0.89) and that the reliability coefficient by Cronbach's alpha was (0.87). These values indicate that the study tool is reliable.

5. Data Analysis

The data from the test were analyzed by the researchers using SPSS version 23. Validity was evaluated using Pearson's correlation coefficients, while reliability was evaluated using Cronbach's alpha. In order to respond to question 1, means, standard deviations, and rank were also extracted.

To assess the degree of compliance of the research tool's items and domains and to calculate the degree of approval based on the range equation, the following scale was selected:

1-1.80= very low level, >1.80-2.60= low level, >2.60-3.40=medium level, >3.40-4.20= high level, >4.20-5.00= very high level.

In addition, the t-test for paired samples was used to show the significance of the differences between the mean scores of the study sample due to gender (the second question).

6. Results

Research Question 1. To what extent does the use of QuillBot motivate EFL students to improve their paraphrasing skills?

Table 4 depicts the results of the study sample's responses to using QuillBot in motivating them to improve their paraphrasing skills.

Table 4. Means, standard deviations, and rank of the study sample's responses to using QuillBot in motivating them to improve their paraphrasing skills

No.	Item	Means	Standard deviations	Rank	Level
1	QuillBot made me feel satisfied when I compared paraphrased text with the original text	3.50	1.447	8	High
2	QuillBot encouraged understanding the main idea (topic and controlling idea) while paraphrasing	3.71	1.411	3	High
3	I felt confident using QuillBot to improve my paraphrasing skill	3.65	1.354	5	High
4	I learned with QuillBot using my own words without omitting any essential ideas	3.78	1.369	1	High
5	I felt more productive while using QuillBot for paraphrasing tasks	3.75	1.431	2	High
6	QuillBot encouraged me to acquire paraphrasing skills, maintain almost the same length of the paraphrased text as the original one	3.69	1.407	4	High
7	QuillBot helped me overcome the fear of making mistakes when paraphrasing	3.48	1.426	10	High
8	I improved my writing skills and knowledge while using QuillBot	3.49	1.391	9	High
9	QuillBot helped in restating an idea that keeps the meaning but changes the structure	3.62	1.357	6	High
10	QuillBot facilitated paraphrasing complex-compound sentences	3.58	1.417	7	High
	Total degree of motivation	3.62	1.320		High

Table 4 displays that the overall score for the extent to which using QuillBot motivates students to improve their paraphrasing skills in English as a foreign language among preparatory year students came to a high degree (M=3.62, SD=1.32). The means on the items ranged between (3.48 - 3.78), and all of them were highly significant. Item 4 "I learned with QuillBot using my own words without omitting any essential ideas" scored the highest degree (M=3.78, SD=1.36). Then, item 5 "I felt more productive while using QuillBot for paraphrasing tasks" followed (M=3.75, SD=1.43). Item 3 "QuillBot encouraged understanding the main idea (topic and controlling idea) while paraphrasing" scored third (M=3.71, SD=1.41). Item 7 "QuillBot helped me overcome the fear of making mistakes when paraphrasing." and 8 "I improved my writing skills and knowledge while using QuillBot" had the lowest scores (M= 3.48, 3.49, SD=1.42, 1.39) respectively.

Research Question 2. Is there any significant difference in the participants' responses attributed to their gender?

Table 5 displays the outcomes of the t-test for independent samples to demonstrate any gender-related differences in the study sample's responses (male, female).

Table 5. T-test for any differences in the study sample's responses attributed to their gender (male, female)

	Gender	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Total degree	Male	52	3.09	1.210	-4.539-	100	.000
	Female	50	4.18	1.205			

According to the gender variable, Table 5 demonstrates that there were statistically significant differences at the level of (0.05). Females benefited from the differences.

Research Question 3. What are the factors that motivate students to use QuillBot to enhance their paraphrasing skills?

The study's one of three objectives was to directly interview students to know the factors that motivate students to utilize QuillBot to

enhance their paraphrasing skills. The main purpose of the interview was to cross-validate the data as obtained through the questionnaire. The interview responses also apprehend the independent opinion of the students regarding the contributing factors that motivate them in a QuillBot paraphrasing classroom. The data collected was divided into five main categories: the role of technology-mediated classrooms, personal digital gadgets to encourage the use of AI tools, easy access to software and internet applications, encouragement by the teachers, and the proper guidance to use AI tools. The analysts thoroughly studied the content, grouping themes into several categories. The important subjects were then highlighted in order to determine the main themes. Students were excited to put forward their opinions as it made them feel important and control their learning process. The content analysis revealed that the factors that highly drive individuals using QuillBot to improve their paraphrasing skills are technology-mediated classrooms, personal digital devices, simple access to software and internet apps, encouragement by the teachers, and appropriate guidance to utilize AI. It was noted that the inclusion of these resources added to students' enjoyment, engagement, productivity, and sparkle in improving writing skills, particularly paraphrasing. The following excerpts show the participants' opinions:

(S1) "The classroom had good wifi that helped work on QuillBot."

(S3) "Classroom had all technology equipment."

(S5) " Teacher provided computer to those who had issues with personal devices."

(S6) "Teacher used the QuillBot on his laptop."

(S8) "Teacher used …….."

(S7) "I had the textbook in soft copy that saved my time."

(S9)" My mobile helped me a lot as it provides solutions to every problem"

(S10) "My laptop is easy to use and encourages me to study e-books."

(S12) "Online application like QuillBot is good."

(S13) "Online paraphraser inspires me as it saves time."

(S15) "Using QuillBot in a writing class is very exciting."

(S17) "AI tool made it very interesting to paraphrase the text"

(S19) "Good wifi always keeps connected to the world of knowledge and the classroom becomes a global platform"

(S22) " Teacher encouraged a lot to practice paraphrasing exercises on the QuilBot"

(S24) " Teacher explained the importance of AI tool and its positive effects on paraphrasing ."

(S23) " It was good to learn that our mobile phones could be a great learning device".

(S27) " I want to use other paid features of QuillBot too to learn more about it ".

(S30) " QuillBot had the option to paraphrase the paraphrased text that was very inspiring".

(S32) "Teacher explained all the features of Quillbot that were boosting my confidence."

(S34) "Teacher practiced book exercise on QuillBot that helped learn a variety of structures."

(S36) "QillBot has a good range of vocabulary that makes it exciting to learn new words and expressions."

(S39) "Teacher's guidance and inspiration was a great source."

(S43) "Teacher told how QuillBot helps overcome the fear of making mistakes"

(S46) "QuillBot is easy to use. I can even when I am relaxing in my bed"

(S48) " Mobile phone is easy to use and carry and so is QuillBot"

(S50) " QuillBot provides immediate feedback that is not possible in the classroom as many students are there"

7. Discussion

Students used QuillBot to learn how to paraphrase using their own words. The study samples perceive that QuillBot can motivate them to paraphrasing as they can use their own words. In addition, students felt more productive in using QuillBot. Moreover, they understood the main ideas through QuillBot. The results might be attributed to students' enthusiasm and confidence while utilizing the QuillBot. It is possible that their obsession with tablets and smartphones led to their love of experimenting with internet tools to strengthen one of their weakest areas, which is paraphrasing. As motivation is a key component in doing anything, AI technologies have been helpful in inspiring students to learn the techniques of paraphrasing. Paraphrasing skills, being one of the most important components of the technical writing syllabus, need special efforts on part of students to improve it so that they can improve on paraphrasing skills as well as score good marks in examination. The results are consistent with another study by Kurniati and Fithriani (2022), who found that the post-graduate students in this study had a favorable reaction to utilize QuillBot to help them improve the level of their writing. They mentioned that QuillBot had three advantages: improving students' favorable attitudes about writing, offering a multiplicity of comprehensible writing tools, and encouraging the language development of students. This result somewhat reflects Zimmerman and Labuhn's (2012) findings that assert

that online learning environments may make it simpler for students to study, encourage them to participate more actively in their writing, feel positive effects, and continue their practice with perseverance, motivation, and confidence. The findings align with Fitria (2021) who states that paraphrasing can be utilized to keep coherence and cohesion in the flow of work in addition to making ideas simpler to understand. The results align with Ariyanti's (2021) findings that assert that employing a variety of technologies to learn languages and training increases students' motivation and reduces their feelings of anxiety. The findings concord to another study by Moore and MacArthur (2016), who state that students receive real-time feedback via technology ultimately motivating them to rewrite and to enjoy the process of writing more than the outcome of this process. The results of this study concord Brown's (2001) findings that proclaim that one of the key elements influencing language-learning performance is motivation. The results are consistent with Ryan and Deci's (2000) assertion that success in language learning is strongly influenced by motivation. The similarity in results in this study and the previous studies shows that Quillbot and other tools are considered as effective tools students need to improve their paraphrasing skill.

The results also show that gender significantly influenced how motivated learners were to use QuillBot to enhance their paraphrasing abilities. Females were more motivated and benefited by the use of the QuillBot. The reasons might be ascribed to the fact that women were more goal-oriented, focused, and determined than men. The study accords Yashima et al. (2009) findings that emphasize that first-year EFL students at a major private institution in Japan had a high relationship between motivation and gender, i.e., female students performed better in writing essays.

The research's findings are consistent with another study by Cahyono and Rahayu (2020) that asserts that the level of writing proficiency among female EFL students is higher than that of male EFL students. The results are consistent with William and Takaku's (2011) assertion that female students used the QuilBot to write essays more effectively than male students because they were more motivated. This study backs another research by Ryan and Deci (2000) that found that students' motivation influences their writing ability. The study supports the findings of another investigation by Agustrianti et al. (2016), which asserts that Indonesian EFL students' reading and writing skills improved with increased motivation to learn English. To the best of the researchers' knowledge, there have not been any studies that have offered contradictory findings about the motivation of a specific gender, i.e., male.

It was also found during the study that certain factors played a significant role in motivating students like technology-mediated classrooms, personal digital gadgets, and encouragement to the use of AI tools, easy access to software and internet applications, and the proper guidance to use AI tools. The results might be attributed to the fact that they are prerequisites for a technology-mediated classroom that actively uses QuillBot as a learning tool. Undoubtedly, teachers' encouragement plays a big motivating factor in students' learning. These findings are consistent with earlier achievement motivation research that emphasizes the importance of meeting students' desires for relatedness and connection, which has a significant impact on their performance (Ryan & Deci, 2000). The results are in line with another study by Chiu et al. (2023), who found that novice students who received teacher support were more motivated than those who did not. The results of this study do, however, differ somewhat from another study by Mese and Sevilen (2021), who claim that students have negative opinions of online education and that this has an adverse effect on their motivation because there is less interaction with others. The reason might be attributed to the fact that students feel low level of motivation if they are not encouraged by their teachers or they are not mutually motivated with their colleagues.

8. Conclusion

The study's objective was to assess how motivated EFL students were in using QuillBot to improve paraphrasing skills. The results showed that the study sample sees that QuillBot plays an extremely significant role in improving paraphrasing skills. It affirms that the current generation is a digital and technology-oriented generation that prefers to study through the technology-mediated classroom that of course requires trained teachers. As studnets are usually obsessed with social media, technology and electronic gadgets, it is dfifficult to keep them motivated in traditinonal classroom especially the ones where they are taught productive skills like writing. It corroborates to the findings of this study as it might be useful to a big community of teachers who are struggling to motivate their students in a writing classroom, which is usually a monotonous one. Technology integration into to classroom and AI tools like QuillBot will not only motivate but also improve writing skills, particularly paraphrasing skills. This study recommends that EFL teachers use this paraphrasing strategy in the classroom to inspire students and ultimately help them become better paraphrasers. Due to the limited scope of this study's context and other variables, it is suggested that future research be focused on other aspects of QuillBot like how this motivation could contribute to improving other challenging aspects of writing especially essay writing, summary writing, etc. However, it is also considerable to provide proper training and exposure of technology to both teahcers and students to keep them motivated as well as get the maximum benefits out of it. Therefore,it is suggested that teachers should be trained in using technology in the classroom so that it might be easier for them to accept and facilitate this switch from traditional to technology-mediated classrooms. The findings suggest that teachers also have to adapt their teaching methodology to the needs and requirements of a technological era. At present, technology is one of the biggest motivating factors for students to improve EFL in general and writing in particular. The study also suggests that teachers should take it as an opportunity to exploit students' obsession with smartphones and tabs to better use them for learning purposes rather than getting upset. The study is limited to a selected population of PY, Najran University only. The results might vary if it is implemented on a different situation, level, or population sample.

Authors' contributions

All authors worked on the research conceptualization of the project. Dr. Taj Mohammad and Dr. Soada Idris Khan collected the data for the study. Dr. Mohd Nazim and Dr. Ali Abbas Falah Alzu'bi analyzed the data. Dr. Taj Mohammad and Dr. Soada Idris drafted the manuscript while Dr. Mohd Nazim and Dr. Ali Abbas Falah Alzu'bi revised the paper and provided the valuable comments. All authors read and approved the final manuscript.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

A written informed consent was obtained from the participants.

Ethics approval

The study sought ethical approval and Najran University's ethics committee approved with reference number 011078-024177-DS.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

Data sharing statement

No additional data are available.

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