

# Exploring EFL Teachers' Insights Regarding Artificial Intelligence Driven Tools in Student-Centered Writing Instructions

Mohd Nazim<sup>1</sup>

<sup>1</sup> Department of English, College of Languages and Translation, Najran University, Kingdom of Saudi Arabia

Correspondence: Mohd Nazim, Associate Professor, Department of English, College of Languages and Translation, Najran University, Kingdom of Saudi Arabia.

Received: March 5, 2024

Accepted: April 30, 2024

Online Published: May 20, 2024

doi:10.5539/ijel.v14n3p90

URL: <https://doi.org/10.5539/ijel.v14n3p90>

## Abstract

The significance of technology integration including artificial intelligence (AI)-mediated tools has established a notable presence in the academic spectrum. Despite the abundance of studies available on AI-mediated technology integration in writing instructions in diverse settings, there remains an apparent gap in exploring teachers' insights, particularly within the context of Arab universities. Therefore, the current study explores the employment of AI-driven tools in student-centered writing instructions from English as a Foreign Language (EFL) teachers' perspectives. Using a qualitative research methodology, this study collected data through semi-structured interviews with a sample of (N = 16) teachers from four different universities. The content analysis indicates that teachers strongly perceive a positive impact of AI writing assistants on both student involvement and the role of teachers. Additionally, they underscore the significance of professional development and the role of AI in facilitating student-centered approach for effective writing instructions. While acknowledging the efficiency, customization, and time-saving aspects of AI tools, they also expressed reservations about potential issues such as overreliance, bias, digital divide, and concerns regarding accuracy. Furthermore, the participants observed the ways to address issues and concerns associated with the integration of AI-mediated tools include, but not limited to, clear communication, ethical considerations, academic integrity, teacher roles, ongoing and latest AI updates, student-centered learning, and professional development. Finally, the study offers limitations and recommendations for future research.

**Keywords:** EFL teachers, employment of AI-driven tools, student-centered writing instructions, academic and ethical concerns

## 1. Introduction

In an era of significant transformation, particularly in educational environments, there is an apparent shift in pedagogical dynamics from a teacher-centered to a student-centered approach. The incorporation of technology, particularly artificial intelligence (AI), into the educational landscape in general and writing classrooms in particular marks a turning point in its progression. Ginting and Fithriani (2022) observe that AI-based technology is a noted current trend in language classrooms, especially in writing instructions. Scholars believe that the adoption of AI-mediated technology significantly assists in reshaping student-centered pedagogy and learning, shifting from traditional methods to focusing on students' engagement, individual needs and fostering a collaborative environment to ensure a more dynamic, participatory learning experience. According to Reigeluth et al. (2017) and Starkey (2019), student-centered instruction determines how teaching and learning should be conducted in today's educational environment and has resulted in a completely new perspective on learning. Writing, being an essential part of the English as a Foreign Language (EFL) teaching and learning context, has not been freed from this shift, including technological integration. Jones (2007), while outlining the importance of student-centeredness in teaching language skills, including writing, emphasized that learner-centered strategies are the most effective ways to develop writing abilities, and writing exercises might take the form of brainstorming sessions and concept-mapping exercises. The integration of technology, particularly AI-mediated writing assistant tools, has become a key component of today's student-centered writing classroom (Al Mahmud, 2023; Fitria, 2021; Hapsari et al., 2023; Marzuki et al., 2023; Mohammad et al., 2024; Raheem et al., 2023).

These AI-powered technologies and tools have significantly altered the environment in which English is taught and learned, particularly the writing instructions. According to Alharbi (2023), artificial intelligence and other

recent technological advancements have an impact on all facets of our lives, including teaching and learning. These tools have altered the way writing is produced, instructed, learned, assessed, and amended. Important features of these AI-mediated tools include language style and grammar checks, writing support, and improvements for many types of writing assignments. These AI tools serve as additional resources for teaching, assisting in tasks such as paraphrasing, detecting copying, generating content, and offering suggestions to enhance the clarity and coherence of writing. According to Thorp (2023), Strobl et al. (2019), and Hosseini et al. (2023), the revolutionary effects of AI-driven tools on written texts provide insightful assistance on how to improve syntax, vocabulary, grammar, and sentence structure. Furthermore, the current paradigm shift towards student-centered instructions highlights the critical role that technology integration and AI-mediated tools play in achieving the intended learning outcomes. It is also noteworthy that both the teaching and learning processes are changing as a result of students actively taking charge of their educational journeys in this dynamic and cutting-edge technology-enabled classroom where writing instructions can be made more student-centered with the use of AI-driven tools. According to Gayed et al. (2022), Jeanjaroonsri (2023), and Zhao (2023), these tools' contributions go beyond their efficacy and include user-friendly characteristics. Teachers, to ensure that instructions appropriately reflect students' knowledge and developmental progress, are now encouraged to blend technology and AI-mediated tools for students' active participation (Bizami et al., 2023; Bond et al., 2020). Hence, it is evident that the transition from teacher-centered to student-centered pedagogy, facilitated by the integration of AI-driven tools in writing instructions, brings about numerous advantages including valuable assistance in augmenting written texts. Furthermore, in the current age of rapid technological growth, it is impossible to separate the transformation of writing instructions from the development and employment of digital tools. According to Haleem et al. (2022), the technological transformation is triggered by the growing integration of digital tools in the educational space, which successfully converts conventional methods into considerably more innovative and dynamic teaching experiences. Similarly, Garlinska et al. (2023) claim that AI-mediated writing tools, including other tech resources, are just a few examples of how the field of writing instructions is being revolutionized. Besides, Nykyporets (2023) maintains that AI platforms provide features like plagiarism checking, collaborative editing, and real-time feedback in addition to helping students become better writers and critical thinkers. Scholars emphasize that AI-powered applications offer students personalized learning experiences which enables teachers to tailor their pedagogical approaches according to the distinct requirements and preferences of each student, leading to enhanced learning achievements (Bhutoria, 2022; Dogan et al., 2023). Researchers also agree that technology and AI-mediated tools strengthen writing instructions in today's tech-enabled pedagogical era. Cahyono et al. (2023) observe that an added dimension of technologically enabled instructional innovation may emerge through a technology-mediated approach to writing instructions.

Given the significance associated with student-centeredness in today's technology and AI-enabled classrooms, it becomes pertinent to examine various educational viewpoints, including insights from EFL teachers on the employment of AI-driven tools in student-centered writing instructions. McCombs and Whisler (1997) assert that instructor insights have a substantial impact on students' experiences as well as the general methods of teaching and learning. Moreover, to the best of the researcher's knowledge, there is limited research in the Arab higher education context on exploring the effect of AI-driven tools in student-centered writing instructions, particularly from teachers' perspective. The author is cognizant of the existing research conducted by numerous scholars who have explored the roles of AI-mediated tools in writing instruction across diverse contexts. Nonetheless, the impact of employing AI-driven tools on student-centered writing instructions remains unclear. Therefore, this study intends to provide a more comprehensive understanding of the employment of AI writing tools in the context of student-centered writing instructions. Consequently, the research problem statement is reformulated in the form of the following research objectives:

- 1) To explore EFL teachers' insights regarding the employment of AI-driven tools in student-centered writing instructions?
- 2) To discover the ways and strategies for addressing the issues that may arise from the employment of AI-mediated tools in student-centered writing instructions?

## 2. Literature Review

The current body of literature indicates that utilizing AI-powered tools contributes to teaching and learning across various contexts (Chaudhry & Kazim, 2021; Chen, Xie, Zou, & Hwang, 2020a; Chen et al., 2020; Chiu et al., 2023; Hwang et al., 2020; Kabudi et al., 2021; Kurniati & Fithriani, 2022; Wang, 2022; Zhao, 2023). In addition, some scholars have expressed reservations regarding the potential drawbacks or unintended consequences associated with these tools (Akgun & Greenhow, 2021; Ally, 2019; Lund & Wang, 2023; Seo et al., 2021; Sijing & Lan, 2018; Liu et al., 2023). In particular, however, studies conducted in the EFL context produced varied findings

influenced by factors such as the research contexts, variables, and other settings. For example, Marzuki et al. (2023) examined the wide range of Artificial Intelligence writing tools that were accessible and evaluated how EFL teachers felt about their impact on students' writing. With a case study design, the research utilized a qualitative methodology. Semi-structured interviews were used to gather data on the variety of AI writing tools available and how they affect students' writing. The finding indicated that the educators agreed that the AI writing tools had a good impact on the writing produced by their students, especially about topics and organization. The study's conclusions suggest that using AI writing tools can help improve EFL students writing. In addition, Du and Gao (2022) employed technology acceptance theories to identify and evaluate the factors that influence teachers' implementation. Within the context of the VAM, the current study offered a multi-criteria decision-making model that includes 10 sub-considerations that were taken from previous research studies in addition to four primary factors. Following the collection of viewpoints from seventeen experts, these criteria were ranked and prioritized using the Analysis of Analytic Hierarchy Process (AHP). The factors that encouraged teachers to employ AI-based applications in EFL were shown to be most influential in terms of effectiveness, efficiency, and complexity. Reward and charge perceptions were less important. It was determined that perceived time, adaptability, and enjoyment were of mediocre significance in the adoption. The essay offers insights into instructors' experiences with the adoption procedures of AI applications in addition to these factor weights. Similarly, Strobl et al. (2019) reviewed the technologies intended to assist writing instructions. The researchers examined forty-four instruments encompassing twenty-six quantitative and qualitative attributes. The findings revealed an uneven distribution of accessible resources concerning supported languages, genres, and instructional emphasis. The results also indicated that while there is a plethora of resources for assistance in crafting argumentative essays in English, there is a noticeable scarcity when it comes to other academic writing styles or languages. Regarding the pedagogical aim, the review showed that there is a good representation of automated support for micro-level revision targeting factual information, but there is a dearth of tools supporting the development of writing techniques and encouraging self-monitoring to enhance macro-level text quality. Likewise, Alshumaimeri and Alshememry (2023) conducted a review with a view that the field of foreign language instruction has been significantly impacted by recent developments in artificial intelligence and other contemporary information and communication technologies. The systematic review, which examined 80 carefully chosen papers from the IEEE, Scopus, and Web of Science databases, provided an overview of the AI applications currently employed in EFL learning and teaching. The analysis indicates that, when compared to language instruction, automated feedback, knowledge graph generation, surveys, and translation research, the field of argumentative writing in the context of AI applications in EFL has gathered the greatest amount of scholarly attention. Besides, Ali (2023) studied the publicly available AI tools, which facilitate innovative pedagogical strategies. To find out what English teachers thought about the advantages and difficulties of implementing artificial intelligence (AI) for personalized language learning, the study used a four-week ChatGPT-based personalized learning intervention in conjunction with a teacher questionnaire and interviews in two upper-secondary schools. In addition, the intervention explored the potential efficacy of personalized learning assignments employing ChatGPT to enhance students' grammar skills. The questionnaire unveiled initial reservations among teachers concerning the accuracy, reliability, and practical integration of such tools. However, the intervention significantly eased grammar errors in student writing. Furthermore, in interviews, teachers expressed increased openness with the tools and observed positive outcomes. These results highlighted the initial hesitancy of teachers toward implementing AI tools, Besides, the findings suggested that AI-driven tools for personalized language learning could be effective on a broader educational scale. Furthermore, Marghany (2023) examined the application of artificial intelligence (AI) to improve the essay-writing abilities of Egyptian university students. One hundred English major students were split equally into two groups: the experimental group and the control group. Pre- and post-tests, along with observation notes, were used to gather data. The results showed that experimental participants' performance had improved more than that of the control group. The study suggested incorporating AI-based Grammarly training into the procedure of teaching writing to senior students in Egypt. Additionally, Mohammadkarimi (2023) explored teachers' opinions of academic dishonesty in EFL students' writings in terms of using AI. 67 teachers participated in the study and shared their perspectives via interviews and questionnaires. The results showed that instructors' opinions on the advantages of AI technologies for students were varied. Teachers expressed a unanimous agreement that AI has a detrimental impact on student's academic integrity. They also emphasized the necessity for teachers to address ethical considerations and their responsibility in identifying assignments generated by AI. While some participants acknowledged difficulties in identifying academic dishonesty connected to artificial intelligence, the study emphasizes how crucial it is that teachers receive thorough training and assistance to make effective use of AI. The study's conclusion urges institutions to accord ethical issues a top priority and create policies for the proper application of AI. As well, Nguyen Thi Thu (2023) researched to find out how EFL instructors in Vietnam, in

particular, evaluate the use of ChatGPT in writing instructions. This study aimed to collect ideas for ChatGPT's employment and find out how EFL teachers perceive utilizing it in writing sessions. Twenty EFL teachers who employed ChatGPT in their writing classes participated in the study. Both quantitative and qualitative data were gathered through an online survey and a structured interview. The study's findings demonstrated how excited EFL teachers are about integrating ChatGPT into writing classes. Furthermore, the study highlights the importance of expert instruction, potential risks associated with ChatGPT, and ensuring proper chatbot usage as crucial components that support its effective implementation. Despite the insightful findings and an incisive summary of the integration of AI-powered technologies and tools in EFL teaching and learning, focusing on their potential advantages and drawbacks, particularly in writing instruction contexts presented in the cited studies, more research on the employment of AI-driven tools in student-centered writing instructions from teachers' perspective is essential. The previous studies indeed offered a comprehensive and well-rounded exploration of AI-mediated tools within the EFL context. However, it is still unclear how EFL teachers view the employment of AI-driven tools in student-centered writing instructions. Accordingly, this study intended to fill the research gap by answering the following research questions:

- 1) What are EFL teachers' insights regarding the employment of AI-driven tools in student-centered writing instructions?
- 2) What are the ways and strategies to address the issues that may arise from the employment of AI-mediated tools in student-centered writing instructions?

### **3. Method**

#### *3.1 Research Design*

This study engages EFL teachers to obtain their insights through semi-structured interviews, focusing on the employment of AI-driven tools in student-centered writing instructions. The qualitative nature of the research design aimed to explore teachers' insights and potential solutions for addressing any challenges associated with the implementation of these applications.

#### *3.2 Participants*

The objective of this study was to explore EFL teachers' insights regarding the use of AI-driven tools in student-centered writing instruction. Initially, twenty-five faculty members were approached for participation, with sixteen, all male, ultimately agreeing, resulting in a 64% participation rate. These participants were recruited from four institutions located in different regions of Saudi Arabia (East, West, North, and South), identified as universities A, B, C, and D, to ensure confidentiality. The participants are from various nationalities, such as India, Egypt, Pakistan, Saudi Arabia, Yemen, USA, etc. They have different degrees in English, including masters and doctorates in various sub-disciplines of applied linguistics. The selection criteria for participants included a minimum of three years of teaching experience and at least one to two years of exposure to employing AI writing tools in both inside and outside classroom settings. This ensured that the participants had employed AI tools in their writing instructions. Additionally, they were provided with published papers related to AI employment in various contexts to enrich their understanding of the current research topic. The participants' selection involved contacting potential participants via phone and email, explaining the study's purpose, their role, the data collection process, and the voluntary nature of participation. It also included the option to withdraw participation at any time without providing a reason. An informed consent form was also provided for participants to review and sign if they agreed to participate, ensuring adherence to ethical guidelines.

#### *3.3 Ethical Approval*

The study received the ethical approval from the Ethics Committee of the Deanship of Scientific Research at Najran University (010495-023028-DS), and written consent was obtained from the participants.

#### *3.4 Tool*

The researcher utilized semi-structured interviews as a research tool to gather data for this study. According to Punch (2013), interviews can be categorized based on their level of structure, ranging from highly structured (like a questionnaire) to open-ended (such as free-flowing conversations or autobiographical interviews), with semi-structured interviews falling in between these two domains. Semi-structured interviews were utilized to explore EFL teachers' insights regarding the employment of AI driven tools in student-centered writing instructions. The interview questions/prompts were developed by the researcher based on his teaching experience and the literature review (Ali, 2023; Marzuki et al., 2023; Mohammadkarimi, 2023; Nguyen Thi Thu, 2023). The participants (N = 16), after providing their consent to participate in the interview, were interviewed by the researcher. The interviews were estimated to last 20–25 minutes with each participant. They were conducted via Blackboard from the

researcher's office in the Department of English, College of Languages and Translation, Najran University, and audio recorded with the participants permission. The interviews were scheduled according to participants' convenience and availability. Before starting each interview, the participants were briefed about the study's objectives, the interview process, and data protection approach etc. During the interview, the researcher began with general question about EFL teachers' insight regarding their teaching experience and employing AI writing tools, thus fostering a relaxed environment conducive for prompts and discussions. Gradually, participants were introduced more specific prompts aligned with the study objectives, delving into their insights regarding the employment of AI writing assistant tools in writing instructions.

### 3.5 Validity

The validity of the interview questions and prompts was checked by a jury (no=5) to verify their validity in terms:

- the compatibility of statements with their domains
- appropriateness of wording of statements
- inclusiveness of statements to achieve the objectives of the study
- language and grammaticality soundness
- applicability of interview question/prompts in terms of EFL teachers' insights regarding the use of AI-driven tools in student-centered writing instruction

The jury, consists of five faculty members who are experts and enjoy extensive experience in utilizing IT and AI, evaluated the study's tool and determined its capability to gather data that could effectively address the research questions and ultimately achieve the study's objectives. The experts identified certain areas for improvement, including wordiness, language, and the study context. The researcher then made the necessary modifications based on the observations:

#### **From:**

- 1) What EFL teachers think about AI tools with special reference to writing instructions?
- 2) How to address academic and ethical issues that arise from the use of AI-mediated tools in writing classroom?

#### **To:**

- 1) What are EFL teachers' insights regarding the employment of AI-driven tools in student-centered writing instructions?
- 2) What are the ways and strategies to address the issues that may arise from the employment of AI-mediated tools in student-centered writing instructions?

### 3.6 Data Analysis

After conducting the interviews, the data was transcribed, converting verbal insights into written form. The researcher then utilized thematic analysis to examine the qualitative data. As described by Braun and Clarke (2006), the objective of the thematic analysis is to uncover patterns and relationships among the themes derived from the qualitative data, thus addressing the research questions. This process involved several steps. First, the researcher familiarized himself with the data by reading and re-reading the transcripts, noting down initial ideas and impressions. Second, began the process of coding, which involved assigning codes to segments that represented a particular theme. Third, the coded data was then revised to identify broader patterns that emerged across the interviews. This involved grouping similar codes together and identifying key concepts. Forth, the identified themes were then reviewed again, ensuring that they accurately represent the data and were meaningful in the context of the research questions. Fifth, each theme was defined and named, providing a concise description of the underlying concept. Finally, the researcher noted down the findings, presenting the themes and their associated data in a coherent and structured manner.

## 4. Results

### 4.1 EFL Teachers' Insights Regarding the Employment of AI-Driven Tools in Student-Centered Writing Instructions

The qualitative analysis of interview excerpts highlighted the positive impact of AI writing assistants on student involvement, teacher role, and the importance of professional development and student-centeredness. AI tools generate interest and motivation, providing real-time feedback and enhancing engagement. Teachers' evolving roles shift from traditional instructors to digital navigators, emphasizing the value of teacher-student relationships and human touch in writing instruction. AI tools offer efficiency, customization, and timesaving, allowing teachers to focus on higher-order skills, critical thinking, and creativity. However, concerns include overreliance on

automated feedback, potential loss of personalized instruction, bias, digital divide, and accuracy concerns. Furthermore, a balanced approach is needed to address bias, lack of personalization, and overreliance on AI tools. Teacher training and ongoing professional development are crucial for successful integration of these tools in a student-centered writing instruction sphere.

#### 4.1.1 AI Impact

The respondents offered their insights on the employment of AI-powered writing assistant tools such as Grammarly and QuillBot, among others, and how they impact student engagement, teacher perspectives, and the learning atmosphere. The interviewees believe that AI tools generate positive student involvement, provide real-time feedback, and assist students in a student-centered environment. They also offer effective grammar checks and facilitate a shift from a teacher-centered to a student-centered environment. AI tools also allow teachers to focus on developing higher-order skills, critical thinking, and creativity. They also offer customized instruction, independent practice, time-saving features, and contribute to an efficient learning environment. Overall, AI writing assistants are seen as a positive tool for enhancing student engagement and promoting a student-centered education. Some of the excerpts are presented below:

T2: Grammarly, QuillBot, and other AI writing aides, in my opinion, greatly increase student engagement, interest, and motivation.

T3: As teachers, we understand that AI tools like Grammarly improve student engagement, provide real-time feedback, and foster a student-centered learning environment.

T5: I believe that technology provides support for students, and AI-mediated tools make learning more comfortable and enjoyable.

T6: AI tools, in my opinion, help students learn through important, timely, and personalized feedback.

T8: I am well aware that ChatGPT can quickly and efficiently perform basic error detection and grammar checks, which promotes student autonomy and self-learning.

T10: AI mediated tools, as I think, allow teachers to focus on developing students higher-order skills, critical thinking, and creativity.

T11: AI-mediated platforms customize instruction, adapting to diverse learning styles and providing autonomous practice opportunities for students.

T12: Students can practice independently, refining their writing skills at their own pace and receiving immediate feedback, which in my opinion, are the key components of student-centeredness in writing instructions.

T15: AI features, such as grammatical correction, language enhancement, and summarization, save time in the writing process.

T16: Tools like Grammarly and QuillBot contribute to a more efficient and student-centered learning environment.

#### 4.1.2 Concerns and Challenges

The contents analysis demonstrates the concerns about the use of AI writing tools in the classroom, including concerns about automated feedback, the impact on peer learning and teacher facilitation, bias in AI tools, loss of personalized instruction, potential digital divide, and multiple concerns about overreliance, bias, and lack of personalization. They also highlight the potential impact of disparities in exposure to AI tools, accuracy concerns, and the risk of compromising contextual meaning. These concerns underscore the need for a balanced approach to writing instruction, considering factors such as independent thinking, peer learning, bias, loss of personalization, digital divide, overreliance, disparities, accuracy issues, and the risk of compromising contextual meaning. Some of the excerpts are presented below:

T1: There is a worry about students relying too much on automated feedback, potentially sacrificing independent thinking.

T3: I am concerned that AI tools like ChatGPT and others might diminish or devalue the expertise of teachers, potentially leading to the replacement of human instructors in certain aspects or even entirety of writing instructions.

T5: Integration of AI tools, I believe, may lead to a loss of personalized instruction which in a student-centered classroom environment provided by teachers.

T7: I see a potential digital divide among students, with not all learners having equal access and exposure to technology.

T9: I am worried about overreliance, bias, lack of personalization. I also call for the importance of addressing these issues to have a balanced approach in writing instruction.

T10: Disparities in exposure to AI-mediated tools could impact the uniformity of the learning experience.

T14: There are, in my opinion, concerns about the accuracy of AI tools such as Paraphraser, particularly in providing comprehensive feedback on content, coherence, and creativity.

T15: I see the risk of AI-mediated feedback compromising the contextual meaning of students' writing.

#### 4.1.3 Teacher's Role

The participants highlighted the evolving role of teachers in the digital age, emphasizing the importance of teacher-student relationships and a balanced approach to AI integration. The interviewee advocates for teachers to guide students through digital apps while preserving their unique interjection. AI tools are seen as encouraging teachers to navigate AI integration while safeguarding human connection, highlighting the potential symbiotic relationship between technology and the essential role of teachers in the learning process. Some of the excerpts are presented below:

T1: I can recognize the evolving role of teachers from traditional instructors to navigators in the digital space.

T9: I am happy to see that the employment of AI mediated tools like Grammarly brought the irreplaceable value of teacher-student relationships and human touch in writing instruction.

T12: I believe that the employment of AI tools (QuillBot) for a balanced approach, where teachers guide students through the digital apps while ensuring they retain their unique interjection.

T13: I see that AI tools encourages teachers to collectively navigate the integration of AI while safeguarding the role of human connection.

#### 4.1.4 Professional Development

The qualitative analysis of teachers interview highlighted the importance of teacher training and professional development in integrating AI tools into student-centered writing instruction. It emphasizes the need for ongoing learning for teachers to navigate technology and digital elements effectively. AI tools also recognize the evolving role of teachers and the value of maintaining teacher-student rapport, underscoring the dynamic nature of education in the digital age. Some of the excerpts are presented below:

T5: I can see the need for teacher training and professional development to successfully integrate AI tools (Grammarly, QuillBot, Wordtune) into student-centered writing instructions.

T10: The employment of AI tools in writing classroom, to the best of my understanding, highlights the importance of ongoing learning for teachers to navigate tech and digital elements effectively.

T11: AI tools, I perceive, recognize the evolving role of teachers, the need for training, and the irreplaceable value of teacher-student rapport.

#### 4.1.5 Student-Centeredness

The analysis of the interview excerpts emphasizes the positive role of AI-mediated tools in promoting student-centered learning. They promote autonomy, self-correction, and continuous improvement, encouraging active student role, accommodating various learning styles, and facilitating interaction and understanding through AI writing assistants. AI tools also provide real-time feedback, creating a dynamic learning environment, and fostering a culture of continuous improvement. The focus on self-correction aligns with the principles of a student-centered approach to education. Some of the excerpts are presented below:

T3: I believe that AI-mediated tools like QuillBot facilitate student-centeredness such as autonomy, self-correction, and continuous improvement.

T5: AI writing assistants (Grammarly, QuillBot, Wordtune etc.) encourage students to take an active role in their learning, contributing to a more effective and personalized learning experience.

T6: AI tools, I suppose, accommodate various learning styles, ensuring a more inclusive learning environment.

T8: Students through AI-mediated tools (ChatGPT and others) can interact and understand writing concepts in ways that suit their preferred modalities.

T10: I can say that the integration of AI tools shifts the classroom from a teacher-centered to a student-

centered environment.

T12: AI tools like ChatGPT offer real-time feedback, creating a dynamic learning environment and a culture of continuous improvement. Also, these tools emphasize the role of self-correction which is crucial in a student-centered approach.

#### *4.2 Ways and Strategies to Address the Issues That May Arise from the Employment of AI-Mediated Tools in Student-Centered Writing Instructions*

The qualitative analysis of the excerpts highlighted the key strategies and ways such as raising AI awareness and familiarity, setting ethical standards, promoting ethical behavior, understanding the consequences of AI-generated work, and integrating ethics discussions into the curriculum to address the issues that may arise from the employment of AI-mediated tools in student-centered writing instructions. The participants were of the view that teachers must recognize the evolving role of teachers and address obstacles related to AI-mediated tools. Regular assessment and monitoring are crucial to ensure the effective employment of AI tools in make student-centered writing instruction effective. It was also noted that student-centered learning is encouraged through collaborative tasks and continuous learning which can easily be implemented through AI-mediated apps. The importance of professional development, as highlighted by participants, cannot be underrated, particularly in the context of providing training for both teachers and students. These strategies aim to address challenges, foster positive learning environments, and integrate AI tools responsibly into the writing instruction process.

##### 4.2.1 Awareness and Familiarity

The content analysis of the excerpts demonstrate the importance of clear and effective communication, transparency, and raising AI familiarity and awareness among educators and students about the use of AI tools in writing instruction. It emphasizes setting ethical standards and clarifying the role of AI in the learning process. Students should be made aware of potential threats and issues to address potential problems. Teachers are responsible for providing information on how AI tools can impact the learning process. Raising awareness of AI tools' adaptability and keeping students informed about their influence on writing development are key to addressing challenges and fostering a positive learning environment. Some of the excerpts are presented below:

T2: Clearly communicate guidelines and expectations regarding the use of AI tools to both educators and students. This transparency helps set a standard for ethical behavior and clarifies the role of AI in the learning process.

T3: I think students should be made aware about the potential threats of using AI tools can address the problems that may arise from the employment of AI-mediated tools.

T5: Making students and teachers aware and familiar about the issues that arise from the employment of AI tools can help in addressing the problems.

T10: As teachers, we have the responsibility to be familiar with AI developments and provide students with complete information on how AI tools can adversely impact learning process.

T11: One of the ways to address the challenges that arise while employing AI tools in writing instructions is to raise students awareness of using AI tools.

T15: Ensuring that students are well aware and familiar about AI tools adaptability which can meet individual learning needs and styles.

T16: One of the many ways to address the barriers that arise while employing AI tools in writing instructions is to keep all stakeholders familiar about how AI tools influence writing development.

##### 4.2.2 Academic Integrity

The qualitative analysis of teachers interview revealed the academic concerned regarding the use of AI-mediated tools in student-centered writing instruction. It suggests addressing academic issues, helping students understand the role of human intelligence, establishing clear guidelines on academic misconduct, offering constructive feedback, and balancing technology reliance with human input. These strategies aim to create a positive learning environment while leveraging the benefits of AI tools. The interviewee also recommends establishing clear guidelines on academic misconduct when using AI tools. Balancing technology reliance with human input can help teachers and educators address potential problems associated with AI-mediated tools. Some of the excerpts are presented below:

T7: Avoiding ethical issues related to the use of AI-mediated tools in student-centered writing instructions can address any potential challenge.



T9: In my opinion, helping students understand the role of human intelligence and taking AI tools as technical support can be one of the many ways which can address the problems that may arise from the employment of AI-mediated tools.

T13: The institutions should establish clear guidelines on academic misconduct when using AI tools in order to address the issues that may arise from the employment of AI-mediated tools.

T15: Offering constructive feedback on students' work, allowing them to learn from both AI-generated suggestions and instructor feedback can address the problems that may arise from the employment of AI-mediated tools

T16: I think that balancing technology reliance with the importance of human input for improvement can assist teachers and educators to address the problems that may arise from the employment of AI-mediated tools.

#### 4.2.3 Ethical Considerations

The analysis showed the strategies for addressing challenges and issues related to AI-mediated tools in writing instructions. These include promoting originality, emphasizing critical thinking and problem-solving, highlighting consequences of AI-generated work, addressing breaches and misuse of personal data, and integrating ethics discussions into the curriculum. The focus is on promoting ethical behavior, critical thinking, and understanding the consequences and risks associated with AI-mediated tools. These strategies aim to create responsible and informed use of AI tools in writing instructions, ensuring students understand the ethical implications of relying on technology. Some of the excerpts are presented below:

T1: I understand that making students understand the importance of originality and proper recognition of AI sources can address the issues that may arise from the employment of AI-mediated tools.

T8: I see that emphasizing the importance of critical thinking and problem-solving skills alongside AI tools can address the issues that may arise from the employment of AI-mediated tools.

T10: One of the ways to address the problems that may arise from the employment of AI-mediated tools is ensuring that students understand the consequences of submitting work generated by AI.

T12: Addressing potential breaches and misuse of personal data related to the use of AI-driven tools in writing instructions can address the issues that may arise from the employment of AI-mediated tools.

T15: Integrate discussions about ethics and academic integrity into the curriculum. Encourage students to critically assess the role of AI tools in their writing process and consider the ethical implications of relying on technology.

#### 4.2.4 Teacher's Role and Responsibilities

The content analysis highlights the importance of recognizing the evolving role of teachers and the value of teacher-student relationships in addressing obstacles related to AI-mediated tools in writing instructions. It suggests that focusing on these aspects can effectively address potential challenges and ensure that human-centered elements are integrated into the educational process, complementing the integration of technology in writing instruction. Some of the excerpts are presented below:

T4: I believe that recognizing the evolving role of teachers from traditional instructors to navigators in the digital realm can help address the obstacles that may arise from the employment of AI-mediated tools.

T10: Emphasizing the irreplaceable value of teacher-student relationships and human touch in writing instructions can be cited as one of the many ways which can address the obstacles that arise from the employment of AI-mediated tools.

#### 4.2.5 Review and Updates

The qualitative analysis emphasizes the importance of regular review, monitoring, and evaluation in addressing obstacles related to AI-mediated tools in writing instruction. Strategies include assessing the effectiveness of AI tools on student learning outcomes, using updated applications, implementing regular monitoring mechanisms, and regularly evaluating their effectiveness on academic and ethical considerations. These measures aim to ensure ethical and effective integration of AI tools into writing instruction, allowing for adjustments to policies and practices in response to emerging challenges or opportunities for improvement. Some of the excerpts are presented below:

T1: Regular assessment of the effectiveness and impact of AI tools on student learning outcomes can address the obstacles that arise from the employment of AI-mediated tools.

T2: One of the ways which can address the hurdles that arise from the employment of AI-mediated tools is to use the updated version of the applications and adjust the use of AI based on recent updated and developments.

T10: Implement regular monitoring mechanisms to track the use of AI tools and ensure compliance with ethical guidelines. This may involve periodic reviews of student work, assessments, and the effectiveness of the AI tools in promoting academic integrity.

T13: Regularly evaluate the effectiveness and impact of AI tools on academic and ethical considerations. This ongoing assessment allows for adjustments to be made to policies and practices in response to emerging challenges or opportunities for improvement.

#### 4.2.6 Student-Centered Learning

The content analysis emphasize the importance of student-centeredness in the form of fostering a collaborative learning environment and implementing collaborative writing tasks to address challenges related to AI-mediated tools in writing instructions. Strategies include fostering a collaborative learning environment, implementing collaborative writing tasks, identifying specific areas of enhancement, implementing peer review processes, and establishing digital learning and sharing spaces. These strategies aim to enhance student engagement, critical thinking, and the effective integration of AI tools in writing instructions. The content analysis highlights the need for a collaborative approach to learning and writing, leveraging peer interactions and digital spaces. Some of the excerpts are presented below:

T2: Fostering a collaborative learning environment where students work together, share insights, and discuss the use of AI tools can address the hurdles that arise from the employment of AI-mediated tools

T5: Implementing collaborative writing tasks to enhance teamwork, critical thinking, and technology integration can be one of the ways to address the barriers that arise from the employment of AI-mediated tools.

T9: Identifying specific areas where AI tools are effectively enhancing students' learning experiences can address the issues that arise from the employment of AI-mediated tools.

T11: One of the many ways that can address the difficulties that arise from the employment of AI-mediated tools is to implement peer review processes to allow students to evaluate the effectiveness of AI tools in enhancing writing quality.

T15: Establishing digital learning and sharing spaces, such as blogs or discussion forums and providing platforms for students to interact, share resources, and seek assistance related to collaborative writing projects can address the issues that may arise from the employment of AI-mediated tools.

#### 4.2.7 Professional Development

The analysis emphasizes the importance of comprehensive training for teachers and students in integrating AI tools into writing instructions. Strategies include providing training on AI tools, highlighting the need for training, promoting continuous learning for teachers, and encouraging teacher participation in training programs. These approaches aim to build necessary skills and awareness for the successful and responsible integration of AI tools into writing instruction. The interviewee emphasizes the need for continuous learning for teachers to navigate AI-driven elements effectively. Overall, these strategies aim to ensure the successful integration of AI tools into writing instruction. Some of the excerpts are presented below:

T1: Providing comprehensive training for both teachers and students on the use AI tools including understanding the limitations of AI, acknowledging the importance of originality, and promoting responsible academic conduct.

T6: Offering training to both teachers and students on how to use AI tools effectively can potentially address the issues that may arise from the employment of AI-mediated tools.

T7: In my opinion, highlighting the need for training and professional development to successfully integrate AI tools in writing instructions can address the issues that may arise from the employment of AI-mediated tools.

T9: Promoting continuous learning for teachers to navigate AI-driven elements effectively can be considered as one of the most critical ways to solve the issues that may arise from the employment of AI-mediated tools.

T16: Encouraging teachers to join the training programs and session focusing on integration of AI while safeguarding the role of human connection in writing instructions.

## 5. Discussion

The semi-structured interviews' qualitative analysis highlights the various dimensions of employing AI-mediated writing assistance in writing classes. The respondents offered their insights on the employment of AI-powered writing assistant tools, highlighting their positive impact on student engagement, ease of access, and the rich learning atmosphere. They believe these tools generate positive student involvement, provide real-time feedback, and help students develop their higher-order skills and creativity. The reasons for these outcomes might be attributed to the available features of AI-powered writing assistant tools, which provide immediate feedback on grammar, spelling, and sentence structure, enhancing students' writing skills. In addition, these tools increase student-centeredness in the form of engagement, confidence, time efficiency, and higher-order skills including their adaptability to different levels and contents. The results of this study are somewhat in line with C. Liu et al. (2021), who emphasized the employment of various AI tools in enhancing the teaching-learning process. Additionally, the outcomes of this study agree with those of Ouyang et al. (2022), who noted that the integration of AI applications supplement the learning experience in addition to having an encouraging influence on students' performance, including their writing abilities. The findings of this study are also consistent with those of Song and Song (2023), whose findings presented a variety of perspectives, from acknowledging AI's inventive role in the classroom and its beneficial effects on writing abilities including the sustainability and long-term effects of AI-assisted training, highlighting the necessity of continuing AI tool development and adaptation. In addition, the findings of this research align with those of Zhang and Hyland (2018), Barrot (2023), and Zhao (2023), whose works emphasize the value of automated, real-time, immediate feedback in addressing the delicate aspects of writing, particularly the significant contribution to the development of writing proficiency. Furthermore, the analysis enlisted the concerns about AI writing tools in classrooms, including loss of personalized instruction, digital divide, overreliance, bias, and the fear of replacement of human instructions by AI tools. The participants perceived AI as a threat to independent thinking, peer learning, fairness, and accuracy. The reasons for these findings might be attributed to the fact that the employment of AI tools in writing classrooms hinders independent thinking, peer learning, and restricts the role of the teacher in terms of facilitation, supervision, and support. The findings of this study are consistent with those of Song and Song (2023), whose results presented a variety of concerns including contextual accuracy and over-reliance. Furthermore, the results of this study are consistent with those of Malik et al. (2023), who found that unnecessary reliance on AI apps can result in decreased attempts at critical intelligence among learners. In addition, the results of the current study are consistent with those of Du and Gao (2022) who highlight many challenges and concerns, including the fear of being replaced and other ethical considerations that language instructors face when adopting AI technologies. Moreover, the findings of this research align with those of Huang and Tan (2023), who contended that an over-reliance on AI technologies could potentially reduce an individual's capacity for critical and creative thought as well as their ability to independently examine writing standards. In addition, the participants emphasized the importance of teacher-student rapport and balanced AI integration in the digital age, advocating for teachers to guide students in idea development through digital apps while preserving human connection, and promoting interdependent association. The reason for these findings can be attributed to the importance of the teacher-student relationship despite AI integration in the classroom. Another reason may also be attributed to the fact that AI tools cannot fully replicate the emotional connections fostered through teacher-student interactions and balancing AI and human instruction is always needed to promote holistic learning environments, leveraging the strengths of both. The current study's findings, which are in line with those of Gayed et al. (2022), indicate that AI writing tools can be helpful in encouraging idea growth, which helps students get beyond creative barriers. Also, the analysis of teacher interviews underscored the significance of continuing professional development for effective integration of AI tools in student-centered writing instruction, emphasizing the dynamic nature of the classroom in today's digital age. The reason for this result may be that teachers have zero or no exposure to integrating AI tools and they need professional training to be familiar with these advancements, pedagogical integration, classroom dynamics, and adaptability. The results of this study coincide with those of Hockly (2023), who observed that teachers and students must acquire digital literacy to face the artificial intelligence-mediated educational world. Similarly, the qualitative analysis revealed that AI-mediated tools promote student-centered learning by encouraging engagement, autonomy, self-regulation, and motivation. They also accommodate various learning styles, facilitate interaction, and provide real-time feedback, creating a dynamic learning experience. This outcome can be due to the features of AI-mediated tools that promote autonomy, cater to diverse learning styles, encourage interaction, and offer real-time feedback, all of which are fundamental aspects of student-centered learning. The findings of this study are in line with Wei (2023), who underscores the transformative influence of AI on language instruction. The findings emphasize how AI enhances engagement, fosters personalized learning experiences, boosts motivation, and promotes self-regulation among learners. Also, the results of this study align with the findings of Chang et al. (2021), which suggest that AI

writing tools can offer immediate feedback and suggestions, thereby helping students develop their writing. The outcomes of this study also coincide with those of Wong and Mak (2019) and Y. Liu et al. (2023), who observed that AI writing tools can help students express their ideas clearly and increase the depth of their content by offering suggestions and prompts.

Moreover, the participants enlisted several ways and strategies, including raising AI awareness and familiarity among faculty members and students, establishing ethical codes and standards, comprehending consequences, incorporating ethics discussions into the curriculum, and implementing the latest AI tools' updates, etc. to address the issues and barriers associated with the use of AI-mediated tools in student-centered writing instructions. They believe that the effective implementation of these initiatives may lead to a positive and supportive environment for the employment of AI-mediated tools in student-centered writing instruction. The reasons for these outcomes might be attributed to several factors, including ongoing debates and discussions that emphasize increased awareness of ethical and academic concerns associated with using AI tools, unexpected improvements in student performance, and changing attitudes toward technology in the writing classroom. This study's findings align with those of Kohnke et al. (2023), whose research highlights the importance of familiarity and ease while utilizing AI-driven instructional resources. Additionally, the content analysis emphasized the importance of clear communication, transparency, and raising awareness about AI tools in writing instruction. This, according to the participants, will highlight the need for academic integrity, understanding of potential threats, and teachers' responsibility in providing information about their impact on learning, particularly writing. The reasons for these outcomes may be attributed to the fact that these strategies ensure that ethical standards are upheld, potential threats are understood, and teachers fulfill their professional responsibility to provide accurate and relevant information to students. The results of the current study are consistent with those of Mohammadkarimi (2023), which emphasizes the significance of providing teachers with thorough training and assistance so they may use AI efficiently without compromising academic integrity in addition to giving ethical issues top priority and creating policies that will allow AI to be used responsibly in education. Similarly, the qualitative analysis of teachers' interviews revealed strategies to address concerns about AI-mediated tools in student-centered writing instruction, including understanding human intelligence, establishing guidelines on misconduct, and balancing technology reliance with human input. The reasons for these findings may be attributed to the fact that these strategies help in understanding the critical role of human intelligence, addressing any misconduct, and avoiding excessive reliance on technology. The study's findings agree with those of Kohnke et al. (2023), who suggest that developing flexible, adaptive policies with guiding principles as opposed to strict rules might be a better course of action, supplemented by frequent revisions based on how society and technology are changing. Likewise, the analysis outlines strategies for addressing challenges related to AI-mediated writing instructions, including promoting originality, fostering critical thinking, highlighting consequences, addressing data breach issues, and integrating ethics into the curriculum to ensure AI's responsible use and understanding. The reasons for these results may be attributed to the fact that these initiatives help in understanding the importance of originality, addressing how to deal with data breach issues, and the importance of integrating ethical standards into the curriculum. Also, the content analysis emphasized the significance of teacher-student relationships and the evolving role of teachers in integrating AI-mediated tools in writing instruction. These reasons for these outcomes may be attributed to the fact that these initiatives help in understanding the evolving role of teachers to ensure the effective use of AI in making writing instructions more student-centered. Also, the analysis highlighted the need for regular review, monitoring, and updates of AI-mediated tools in writing instruction to ensure ethical integration and adjust policies as needed, considering academic and ethical considerations. These reasons for these outcomes may be attributed to the fact that regular review and monitoring, and evaluation of AI-mediated tools can ensure effective policies to address academic and ethical considerations. In addition, the content analysis emphasized the need for strategies such as peer review, digital learning, and a collaborative approach to enhance student engagement and critical thinking. The reasons for these outcomes may be attributed to the fact that AI-mediated tools have the potential to incorporate collaborative learning to ensure student-centered learning. In the same vein, the results emphasize the need for comprehensive training for teachers and students in integrating AI tools into writing instruction. Strategies include providing training, promoting continuous learning, and encouraging teacher participation in training programs to build necessary skills. These outcomes may be attributed to the fact that professional training and continuous learning encourage teachers to develop the necessary skills required to effectively employ AI in their writing instructions. The study's findings are in line with those of Kohnke et al. (2023), whose research emphasizes the difficulties and obstacles faced by language teachers as well as the demand for specialized training and professional development.

## 6. Conclusion

The objective of this study was to explore EFL teachers' insights on the employment of AI-driven tools in student-centered writing instructions. The findings reveal that AI-powered writing assistant tools have a positive impact on student writing engagement and the learning atmosphere. They increase student-centeredness, confidence, and time efficiency. However, concerns about AI writing tools cannot be overlooked, which include loss of personalized instruction, digital divide, overreliance, bias, and fear of replacing human instructions. Participants emphasized the importance of teacher-student rapport and balanced AI integration in the digital age. Strategies to address these issues include, raising AI awareness, establishing ethical codes, understanding consequences, incorporating ethics discussions into the curriculum, and implementing the latest AI tools' updates. They emphasized that clear communication, transparency, and understanding of human intelligence are also crucial. Other strategies for addressing these challenges include promoting originality, fostering critical thinking, addressing data breach issues, and integrating ethics into the curriculum, regular review and monitoring, etc. are necessary for ethical integration. Comprehensive training for teachers and students is also essential. The study suggests several implications including investing in comprehensive training programs for teachers and students to effectively utilize AI-driven writing assistant tools, covering technical aspects and ethical considerations, and establishing clear ethical guidelines for AI integration into a student-centered writing instructions environment. While the current study offers valuable insights into the employment of AI writing tools in EFL writing instructions, it is crucial to acknowledge several limitations. Firstly, the study's scope is limited as it only gathered data from teachers. Secondly, the availability of technology and other IT and AI resources, as well as instructors' attitudes towards AI tools, may differ by location, thus potentially limiting the generalizability of the findings across different contexts. Thirdly, the active support for AI writing tools by the educators involved in the study may bias the results towards more positive experiences or attitudes. Lastly, the gender bias (only male participants) and the research methodology (only interviews) employed in the study might also influence the findings. To overcome the limitations, future research should consider conducting a comparative study between teachers who employed AI writing tools in their writing instructions including other areas of EFL pedagogy, and those who do not. Such an approach would offer a more balanced perspective, allowing for a deeper exploration of the reasons behind the adoption or avoidance of these tools and any potential barriers to their effective implementation in the classroom. Additionally, the study focused exclusively on male teachers, overlooking the perspectives of female educators and students. It is hoped that incorporating the viewpoints of both female teachers and students would provide a more holistic understanding of the impact of AI tools on teachers' pedagogy and students' English learning experience. The researcher believes that addressing these limitations in future studies is essential for obtaining a comprehensive insight into the implications and potential challenges associated with the integration of AI writing tools in EFL diverse contexts and settings.

### Acknowledgments

Not applicable.

### Authors' contributions

Dr. MN was responsible for study design, data collection, drafting, and revising the manuscript. The author read and approved the final manuscript.

### Funding

Not applicable.

### Competing interests

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Informed consent

Obtained.

### Ethics approval

The Ethics Committee of the Deanship of Scientific Research at Najran University.

The Publication Ethics Committee of the Canadian Center of Science and Education.

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. The data are not publicly available due to privacy or ethical restrictions.

### Data sharing statement

No additional data are available.

### References

- Akgun, S., & Greenhow, C. (2021). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2, 431–440. <https://doi.org/10.1007/s43681-021-00096-7>
- Al Mahmud, F. (2023). Investigating EFL students' writing skills through artificial intelligence: wordtune application as a tool. *Journal of Language Teaching and Research*, 14(5), 1395–1404. <https://doi.org/10.17507/jltr.1405.28>
- Alharbi, W. (2023). AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools. *Education Research International*, 1–15. <https://doi.org/10.1155/2023/4253331>
- Ali, A. M. (2023). *An Intervention Study on the Use of Artificial Intelligence in the ESL Classroom: English teacher perspectives on the Effectiveness of ChatGPT for Personalized Language Learning*. Dissertation. Retrieved from <https://urn.kb.se/resolve?urn=urn:nbn:se:mau:diva-61339>
- Ally, M. (2019). Competency profile of the digital and online teacher in future education. *International Review of Research in Open and Distributed Learning*, 20(2). <https://doi.org/10.19173/irrodl.v20i2.4206>
- Alshumaimeri, Y. A., & Alshememry, A. K. (2023). The extent of AI applications in EFL learning and teaching. *IEEE Transactions on Learning Technologies*, 17, 653–663. <https://doi.org/10.1109/TLT.2023.3322128>
- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing*, 57. <https://doi.org/10.1016/j.asw.2023.100745>
- Bhutoria, A. (2022). Personalized education and artificial intelligence in the United States, China, and India: A systematic review using a human-in-the-loop model. *Computers and Education: Artificial Intelligence*, 3. <https://doi.org/10.1016/j.caeai.2022.100068>
- Bizami, N. A., Tasir, Z., & Kew, S. N. (2023). Innovative pedagogical principles and technological tools capabilities for immersive blended learning: a systematic literature review. *Education and Information Technologies*, 28(2), 1373–1425. <https://doi.org/10.1007/s10639-022-11243-w>
- Bond, M., Bedenlier, S., Buntins, K., Kerres, M., & Zawacki-Richter, O. (2020). Facilitating student engagement in higher education through educational technology: A narrative systematic review in the field of education. *Contemporary Issues in Technology and Teacher Education*, 20(2), 315–368. <https://doi.org/10.14742/ajet.5477>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cahyono, B. Y., Khotimah, K., & Batunan, D. A. (2023). Workable approaches in EFL teaching mediated by mobile technology during the pandemic and post-pandemic: Indonesian EFL teachers' experiences and expectations. *Computer Assisted Language Learning*, 24, 138–159. <https://doi.org/10.17718/tojde.1175925>
- Chang, T. S., Li, Y., Huang, H. W., & Whitfield, B. (2021, March). *Exploring EFL students' writing performance and their acceptance of AI-based automated writing feedback* (pp. 31–35). 2021 2nd International Conference on Education Development and Studies. <https://doi.org/10.1145/3459043.3459065>
- Chaudhry, M. A., & Kazim, E. (2021). Artificial intelligence in education (AIEd): A highlevel academic and industry note 2021. *AI Ethics*, 2, 157–165. <https://doi.org/10.1007/s43681-021-00074-z>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
- Chen, X., Xie, H., Zou, D., & Hwang, G. J. (2020a). Application and theory gaps during the rise of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 1. <https://doi.org/10.1016/j.caeai.2020.100002>
- Chiu, T. K. F., Xia, Q., Zhou, X., Chai, C. S., & Cheng, M. (2023). Systematic literature review on opportunities,

- challenges, and future research recommendations of artificial intelligence in education. *Computers & Education: Artificial Intelligence*, 4. <https://doi.org/10.1016/j.caeai.2022.100118>
- Dogan, M. E., Goru Dogan, T., & Bozkurt, A. (2023). The use of artificial intelligence (AI) in online learning and distance education processes: A systematic review of empirical studies. *Applied Sciences*, 13(5), 3056. <https://doi.org/10.3390/app13053056>
- Du, Y., & Gao, H. (2022). Determinants affecting teachers' adoption of AI-based applications in EFL context: An analysis of analytic hierarchy process. *Education and Information Technologies*, 27(7), 9357–9384. <https://doi.org/10.1007/s10639-022-11001-y>
- Fitria, T. N. (2021). Grammarly as AI-powered English writing assistant: Students' alternative for writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, 5(1), 65–78. <https://doi.org/10.31002/metathesis.v5i1.3519>
- Garlinska, M., Osial, M., Proniewska, K., & Pregowska, A. (2023). The influence of emerging technologies on distance education. *Electronics*, 12(7), 1550. <https://doi.org/10.3390/electronics12071550>
- Gayed, J. M., Carlon, M. K. J., Oriola, A. M., & Cross, J. S. (2022). Exploring an AI-based writing assistant's impact on English language learners. *Computers and Education: Artificial Intelligence*, 3. <https://doi.org/10.1016/j.caeai.2022.100055>
- Ginting, R. S., & Fithriani, R. (2022). Peer and automated writing evaluation (AWE): Indonesian EFL college students' preference for essay evaluation. *Journal on Language and Language Teaching*, 25(2), 461–473. <https://doi.org/10.24071/llt.v25i2.4879>
- Haleem, A., Javaid, M., & Singh, R. P. (2022). An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 2(4). <https://doi.org/10.1016/j.tbench.2023.100089>
- Hapsari, Y. T., Drajadi, N. A., & Setyaningsih, E. (2023). University students' cyclical self-assessment process mediated by artificial intelligence in academic writing. *Journal of English Language Teaching Innovations and Materials*, 5(1), 31–48. <https://doi.org/10.26418/jeltim.v5i1.59858>
- Hockly, N. (2023). Artificial Intelligence in English Language Teaching: The Good, the Bad and the Ugly. *RELC Journal*. <https://doi.org/10.1177/00336882231168504>
- Hosseini, M., Rasmussen, L. M., & Resnik, D. B. (2023). Using AI to write scholarly publications. *Accountability in Research*, 1–9. <https://doi.org/10.1080/08989621.2023.2168535>
- Huang, J., & Tan, M. (2023). The role of ChatGPT in scientific communication: Writing better scientific review articles. *American Journal of Cancer Research*, 13(4), 1148–1154.
- Hwang, G. J., Xie, H., Wah, B. W., & Gašević, D. (2020). Vision, challenges, roles and research issues of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 1. <https://doi.org/10.1016/j.caeai.2020.100001>
- Jeanjaroonsri, R. (2023). Thai EFL learners' use and perceptions of mobile technologies for writing. *Learn Journal: Language Education and Acquisition Research Network*, 16(1), 169–193. Retrieved from <https://so04.tci-thaijo.org/index.php/LEARN/article/view/263438>
- Jones, L. (2007). *The student-centered classroom* (Vol. 32). Cambridge: Cambridge University Press.
- Kabudi, T., Pappas, I., & Olsen, D. H. (2021). AI-enabled adaptive learning systems: A systematic mapping of the literature. *Computers and Education: Artificial Intelligence*, 2. <https://doi.org/10.1016/j.caeai.2021.100017>
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Exploring generative artificial intelligence preparedness among university language instructors: A case study. *Computers and Education: Artificial Intelligence*, 5. <https://doi.org/10.1016/j.caeai.2023.100156>
- Kurniati, E. Y., & Fithriani, R. (2022). Post-graduate students' perceptions of Quillbot utilization in English academic writing class. *Journal of English Language Teaching and Linguistics*, 7(3), 437–451. <https://doi.org/10.21462/jeltl.v7i3.852>
- Liu, C., Hou, J., Tu, Y. F., Wang, Y., & Hwang, G. J. (2021). Incorporating a reflective thinking promoting mechanism into artificial intelligence-supported English writing environments. *Interactive Learning Environments*, 1–19. <https://doi.org/10.1080/10494820.2021.2012812>
- Liu, Y., Han, T., Ma, S., Zhang, J., Yang, Y., Tian, J., & Ge, B. (2023). *Summary of chatgpt/gpt-4 research and*

- perspective towards the future of large language models*. arXiv Preprint arXiv: 2304.01852. <https://doi.org/10.48550/arXiv.2304.06488>
- Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? *Library Hi Tech News*, 40(3), 26–29. <https://doi.org/10.1108/LHTN-01-2023-0009>
- Malik, T., Dwivedi, Y., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., ... Wright, R. (2023). Opinion paper: “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>
- Marghany, M. M. (2023). Using artificial intelligence-based instruction to develop EFL higher education students’ essay writing skills. *CDELT Occasional Papers in the Development of English Education*, 82(1), 219–240. <https://doi.org/10.21608/opde.2023.313623>
- Marzuki, Widiati, U., Rusdin, D., & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students’ writing: EFL teachers’ perspective. *Cogent Education*, 10(2). <https://doi.org/10.1080/2331186X.2023.2236469>
- McCombs, B. L., & Whisler, J. S. (1997). *The learner centered classroom and school: Strategies for increasing student motivation and achievement*. San Francisco: Jossey-Bass.
- Mohammad, T., Nazim, M., Alzubi, A. A. F., & Khan, S. I. (2024). Examining EFL Students’ Motivation Level in Using QuillBot to Improve Paraphrasing Skills. *World Journal of English Language*, 14(1). <https://doi.org/10.5430/wjel.v14n1p501>
- Mohammadkarimi, E. (2023). Teachers’ reflections on academic dishonesty in EFL students’ writings in the era of artificial intelligence. *Journal of Applied Learning and Teaching*, 6(2). <https://doi.org/10.37074/jalt.2023.6.2.10>
- Nguyen Thi Thu, H. (2023). EFL Teachers’ Perspectives toward the Use of ChatGPT in Writing Classes: A Case Study at Van Lang University. *International Journal of Language Instruction*, 2(3), 1–47. <https://doi.org/10.54855/ijli.23231>
- Nykyporets, S. S. (2023). Harnessing cloud technologies for foreign language acquisition among masters in energy engineering. In *Moderní aspekty vědy: Svazek XXXI mezinárodní* (pp. 21–56). Retrieved from <http://ir.lib.vntu.edu.ua/handle/123456789/37121>
- Ouyang, F., Zheng, L., & Jiao, P. (2022). Artificial intelligence in online higher education: A systematic review of empirical research from 2011 to 2020. *Education and Information Technologies*, 27(6), 7893–7925. <https://doi.org/10.1007/s10639-022-10925-9>
- Raheem, B. R., Anjum, F., & Ghafar, Z. N. (2023). Exploring the Profound Impact of Artificial Intelligence Applications (Quillbot, Grammarly and ChatGPT) on English Academic Writing: A Systematic Review. *International Journal of Integrative Research (IJIR)*, 1(10), 599–622. <https://doi.org/10.59890/ijir.v1i10.366>
- Reigeluth, C. M., Myers, R. D., & Lee, D. (2017). The learner-centered paradigm of education. In C. M. Reigeluth, B. J. Beatty & R. D. Myers (Eds.), *Instructional design theories and models* (Vol. 4: The learner-centered paradigm of education, pp. 5–32). New York, Oxford: Routledge. <https://doi.org/10.4324/9781315795478>
- Seo, K., Tang, J., Roll, I., Fels, S., & Yoon, D. (2021). The impact of artificial intelligence on learner-instructor interaction in online learning. *International Journal of Educational Technology in Higher Education*, 18(1), 1–23. <https://doi.org/10.1186/s41239-021-00292-9>
- Sijing, L., & Lan, W. (2018). *Artificial intelligence education ethical problems and solutions* (pp. 1–5). 2018 13th international conference on computer science & education (ICCSE). IEEE. <https://doi.org/10.1109/ICCSE.2018.8468773>
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1260843>
- Starkey, L. (2019). Three dimensions of student-centred education: a framework for policy and practice. *Critical Studies in Education*, 60(3), 375–390. <https://doi.org/10.1080/17508487.2017.1281829>
- Strobl, C., Ailhaud, E., Benetos, K., Devitt, A., Kruse, O., Proske, A., & Rapp, C. (2019). Digital support for academic writing: A review of technologies and pedagogies. *Computers & Education*, 131, 33–48.



<https://doi.org/10.1016/j.compedu.2018.12.005>

- Thorp, H. H. (2023). ChatGPT is fun, but not an author. *Science: Advanced Materials and Devices*, 379(6630), 313. <https://doi.org/10.1126/science.adg7879>
- Wang, Z. (2022). Computer-assisted EFL writing and evaluations based on artificial intelligence: A case from a college reading and writing course. *Library Hi Tech*, 40(1), 80–97. <https://doi.org/10.1108/LHT-05-2020-0113>
- Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1261955>
- Wong, K. M., & Mak, P. (2019). Self-assessment in the primary L2 writing classroom. *The Canadian Modern Language Review*, 75(2), 183–196. <https://doi.org/10.3138/cmlr.2018-0197>
- Zhang, Z. V., & Hyland, K. (2018). Student engagement with teacher and automated feedback on L2 writing. *Assessing Writing*, 36, 90–102. <https://doi.org/10.1016/j.asw.2018.02.004>
- Zhao, X. (2023). Leveraging artificial intelligence (AI) technology for English writing: Introducing wordtune as a digital writing assistant for EFL writers. *RELC Journal*, 54(3), 890–894. <https://doi.org/10.1177/00336882221094089>

## Appendix A

Assignment: Paraphrase a text	
Teacher input	AI (QuillBot) input
<p>The teacher provided the following input in the classroom to assist students in paraphrasing a text assignment.</p> <p>First, the teacher provided detailed instructions for paraphrasing, including reading the original text carefully, identifying the main/key words, writing (draft) in your own words, replacing words/expressions (using synonyms), reviewing the paraphrased text to check whether it accurately reflects the original text, and editing.</p> <p>Next, the teacher gave examples of well-written paraphrased texts. These examples served as reference points for students and help them understand the concept and process of paraphrasing.</p> <p>Then, the teacher engaged students in activities such as brainstorming, mind mapping, etc. to help them generate ideas, organize their thoughts, and start writing/paraphrasing.</p> <p>After that, the teacher offered feedback on students' drafts including suggestions for improvement, guidance on grammar, spelling, punctuation etc.</p> <p>In addition, the teacher offered prompts to stimulate students' creativity and encourage them to use synonyms, change the structure of the sentence, the voice from active to passive, clauses to phrases, and parts of speech.</p> <p>Finally, the teacher assisted students in revising the paraphrased text, its structure, coherence, clarity, and style.</p> <p>To conclude, the teacher encouraged and supported students throughout the paraphrasing process.</p>	<p>QuillBot, an AI-mediated writing assistant, provided the following input in the classroom to assist students in paraphrasing a text assignment.</p> <p>QuillBot, as soon as the original text was pasted in the provided box, analyzed the text in terms of grammar, punctuation, spelling, sentence structure, and words/expressions. This analysis helped students identifying the errors and having an idea of potential replacements for paraphrasing the text.</p> <p>QuillBot, then, generated feedback on aspects such as language, sentence structure, and synonyms. This feedback helped students correct errors and incorporating substitutes, improving the overall quality of their paraphrasing.</p> <p>In addition, QuillBot generated prompts tailored to students' interests, and/or preferences. These prompts foster creativity and help students overcoming any writing issues, ultimately serving as a source of inspiration and direction for their writing/paraphrasing efforts.</p> <p>Moreover, QuillBot assisted students in revising their drafts by offering suggestions for improving clarity, coherence, organization of the text. It also highlighted areas where sentences were unclear and provided substitution wording or phrasing to achieve effective paraphrasing.</p> <p>To conclude, the QuillBot strengthens students' paraphrasing abilities by providing them with personalized feedback, support, and tools to refine their paraphrasing skills.</p>

## Pros and Cons of Employing AI in Writing Instructions

### PROS:

**Efficacy:** Students, with AI-mediated input, produce paraphrased text more quickly than with traditional approaches since it speeds up the paraphrasing process.

**Feedback:** Artificial intelligence tools such as QuillBot give instant feedback on contents that have been paraphrased, assisting students in identifying areas for development and instantly learning from their errors.

**Customization:** AI generates customized writing prompts and recommendations according to each student's

preferences and writing style, meeting their unique demands and needs.

**Sources:** AI paraphrasing tools like Wordtune and QuillBot provide students with access to a wealth of resources and examples, enhancing their understanding of paraphrasing techniques and strategies.

**Practice:** AI tools offer students plenty of opportunities to practice and improve their paraphrasing abilities as they assist them in developing and improving their skills.

#### **CONS:**

**Undue dependency:** As students rely on AI paraphrasing tools, they neglect to cultivate their paraphrasing skills and critical thinking abilities, fostering undue dependency on technology.

**Accuracy:** AI-generated paraphrasing may not always accurately convey the originality or intended meaning of the original text, which could result in errors or misinterpretations.

**Creativity limitation:** AI tools hinder original thoughts and expression in students' writing by offering predetermined prompts and suggestions, which limit their creativity.

Overall, while using AI-generated input for students', paraphrasing has many advantages in terms of efficacy, feedback, customization, resources, and practice. It also has disadvantages, including dependency issues, overreliance, accuracy concerns, and limitations on creativity. These issues must be carefully addressed especially in a writing instruction classroom.

#### **Copyrights**

Copyright for this article is retained by the author, with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).