Generative artificial intelligence in EFL writing: A pedagogical stance of pre-service teachers and teacher trainers

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ABSTRACT

This study examines pre-service English language teachers' grounds and connections between the use of generative Artificial Intelligence (AI) tools in EFL writing skills and future prospects to integrate them into their teaching practices. Employing a qualitative research paradigm, a researcher-developed survey was used to elicit the perspectives of 28 pre-service English language teachers and 10 teacher trainers. The stages of qualitative data analysis were followed, emergent ideas embedded in the responses were labeled and the codes were clustered into broader themes to obtain a description of their reflections. This study documented reflections on the transformative impact of generative AI in EFL writing. Benefits were reported considering the use of AI tools to overcome writer's block and get language support, and instantaneous and personalized feedback to the texts. Foregrounding concerns regarding academic misconduct, a need was highlighted for ethical guidelines and enhancement to AI literacy to ensure the validity of AI-generated content. Further, they suggested reformulating assessment and evaluation in EFL writing skills and moving away from result-oriented exams suggesting the adoption of performance-based and process-oriented assessments. Accordingly, ethical and pedagogical implications were offered to adopt a critical stance to improve AI literacy skills in EFL writing development.

Introduction

In November 2022, a remarkable milestone was reached with the public unveiling of ChatGPT, an AI-driven chatbot capable of automatic text generation. The rapid emergence and prevalence of AI served as a catalyst for current discussions, intensifying concerns among educators about potential violations of academic integrity, despite the legitimate and ethical use of these AI-supported tools. Subsequently, generative AI tools have emerged as powerful platforms for L2 writing classes with the prevalence of recent technological developments in the digital age. With the introduction of innovative advancements in AI-supported EFL writing pedagogy, a range of tools, including word processing software, automated paraphrasing tools, grammar checkers, and automated feedback programs, have gained prominence in L2 classrooms. These innovative pedagogical practices have served as a

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catalyst for current discussions, intensifying concerns among educators about potential violations of academic integrity, despite the legitimate and ethical use of these AI-supported tools. Debate still continues regarding the legitimate integration of these tools for the development of English writing skills, in line with the principles of academic integrity.

Generative AI writing tools have shown surprising capabilities in generating intelligent-sounding text in response to user prompts (Stokel-Walker, 2022). Throughout this manuscript, the term, generative AI, is used to refer to "models that are trained on massive amounts of text data and are able to generate human-like text, answer questions, and complete other language-related tasks with high accuracy" (Kasneci et al., 2023, p. 1). These tools serve surprising capabilities in generating intelligent-sounding text in response to user prompts (Stokel-Walker, 2022). They maintain a continuous flow in L2 writing and improve the overall quality of students' written work (Zhao, 2022) and offer great potential for cultivating high-quality texts (Guo et al., 2022). In light of the demanding nature of EFL writing, which necessitates mastery of genre conventions, students often face challenges that may lead them to rely heavily on translation tools or predictive text agents to generate extensive blocks of text with minimal user input (Gayed et al., 2022). They also help to respond to learners' immediate needs and yield higher L2 enjoyment, and achieve higher learning outcomes (Wang et al., 2022) fostering the improvement of students' language use to convey the intended meaning effectively. In previous research, learners have expressed a preference for automated essay evaluation systems over conventional teacher feedback, as the former significantly reduces writing errors (Vajjala, 2018). Previous research has also highlighted increased motivation levels of preK-12 students when incorporating AI technologies in classrooms (Hwang et al., 2020). Thus, teachers can promote student learning by customizing the difficulty of complex reading passages, facilitating the revision process, and stimulating reflection on the disparities between students' own writing and AI-generated writing (Tseng & Warschauer, 2023).

Numerous studies have explored the efficacy of AI-supported writing tools in English learning and teaching contexts. For example, a recent study focused on the development and piloting of a new AI curriculum in primary schools and highlighted the relevance of AI in their career motivation. This study showed that AI promotes students' intrinsic motivation, confidence in learning, and cultivates their interests in AI (Lin et al., 2021). After analyzing 25 empirical research papers on AI-supported language learning published in the last 15 years, Yang and Kyun (2022) put forward two basic pedagogical implications: (a) using AI-supported language learning could leverage learners' cooperation and collaboration in language learning; (b) incorporating AI and formal teacher instruction could yield to better pedagogical gains. Sumakul et al. (2022) noted that students' motivational levels and teachers' technological and pedagogical knowledge are two significant aspects that need to be considered in the integration of AI into L2 learning. AI tools were found to increase students' motivation, foster creativity, and enable better access to learning materials. AI writing tools provide support with teaching, student assessment, learning, teacher-parent, and teacher-student interaction and offer suggestions to create more inclusive, diverse, and accessible learning activities (Trust et al., 2023), and reduce teacher workload (Jiang, 2022).

The varying and prevalent use of generative AI in education has also yielded several current multifaceted discussions and concerns about the application of AI-supported EFL writing tools. One common challenge is carrying out assessment and evaluation and discriminating AI-generated output and learners' original writing, which might lead to inadequate assessment of students' understanding (Cotton, Cotton & Shipway, 2023). Another potential risk is echoed by Trust et al. (2023) for a particular AI tool in the following way: "assuming that ChatGPT produces credible output, privileging AI-generated text over

human-generated text, giving away personal and sensitive data, violating the terms of use, and widening the digital divide" (p. 7). It is argued that generative AI tools could yield to undermining the prominent purpose of higher education, which is to challenge and train students (Cotton et al., 2023).

Whereas significant concerns with integrity and plagiarism arise, there are also documented benefits that include fostering a sense of connection to enhance peer and teacher interactions, offering authentic assessment, and speeding up the pace of the learning process. (Crawford et al., 2023). Based on an in-depth review of empirical studies on the use of artificial intelligence in language learning, teachers' intervention and how AI-supported language learning is organized in pedagogical designs have a substantial impact on student learning (Yang & Kyun, 2022). Acknowledging the aforementioned documented benefits, AI-supported EFL writing tools require a balance between questioning the role of technology, recognizing the potential threats it poses, and openness to innovation and experimentation in language learning (Stokel-Walker, 2022). Previous research addressed the need for guidelines and regulations with the involvement of stakeholders to enable legitimate use of these tools (Bekou et al., 2024). For this reason, it is necessary to adopt a critical stance on the employment of these tools and train learners in accordance with emerging developments.

Research regarding the documentation of the conceptualization and the use of AI by pre-service English language teachers and teacher trainers is underrepresented. Accordingly, due to the paucity of current studies, more research is needed to uncover the pedagogical potential of AI in EFL teaching (Jiang, 2022). Building upon this gap, varying perspectives, concerns, arguments, and recent research findings, the subsequent sections of this article critically address the potential benefits, drawbacks, and practical applications of AI-supported writing tools for different proficiency-level students in educational settings.

By exploring the intricacies of AI-powered writing tools in L2 education, this research aims to generate insights on their transformative impact, providing teachers with comprehensive insights into how these tools can be effectively integrated into instructional practices. Moreover, it seeks to address concerns surrounding academic integrity and equip prospective teachers and teacher trainers with informed strategies to foster the advantages of AI-supported EFL writing while navigating the potential challenges. Ultimately, this article contributes to the ongoing discourse surrounding AI, offering practical guidance for optimizing the use of AI-supported L2 writing tools to enhance language learning outcomes in different educational contexts. Overall, this study will provide a composite presentation of their stance along with experiences regarding the integration of AI in EFL writing skills.

This study aims to examine the grounds and connections of pre-service English language teachers and teacher trainers between their current use of these tools and their future prospects to integrate them into L2 writing practices. Within the scope of this purpose, the following research questions are addressed:

a) What are the ways that pre-service teachers and teacher trainers conceptualize the role of AI in EFL writing?
b) How do they perceive the functions, purposes, and affordances of AI-supported writing skills?
c) What are the experienced challenges and proposed solutions to address the limitations?
d) What are their needs for enabling legitimate integration of AI in EFL writing?

Methodology

Context and participants

This exploratory study employs a qualitative research paradigm. This research design will enable documentation of the stances of pre-service English language teachers and teacher trainers about the use of AI tools in EFL writing development. More specifically, this research design was chosen to provide individual perspectives, explore underlying reasons and meanings, unveil contextual elements, and figure out the multidimensional nature of the interplay between AI use and L2 writing.

This study was carried out in an English Language Teacher training program at a Turkish higher education setting. 28 pre-service teachers and 10 teacher trainers from three different local settings participated in this study. As a sampling method, this study adopts purposeful sampling. The recruitment strategy for enrolling in the study differed between pre-service teachers and teacher trainers. More specifically, pre-service teachers enrolled in the first year of the English language teaching department and took L2 writing skills courses in the fall and spring semesters of the 2022-2023 academic year. Further, data were collected upon the completion of the spring semester and students were assured that their responses would not affect their academic standing and relationship with the initial training program. To ensure diversity in perspectives and experiences, teacher trainers from three local settings were reached out by establishing personal contact. They have expertise in English language teaching which could increase the likelihood of fulfilling and fully serving the research purposes. Detailed information about the study, its objectives, and the confidentiality of their responses were given to the participants.

Data collection and analysis

A researcher-developed survey was used as a data-gathering instrument. The rationale for using a survey is two-fold: (a) the novelty and nonexistence of topic-based data-gathering instruments, (b) the need to generate personal stances about the pedagogical use of AI for a particular language skill. This survey was constructed through an in-depth review of literature consultation with experts in language instruction, and pilot testing with a small group of L2 writing instructors. They provided feedback on the verbalization of questions, clarity, and flow of items. Accordingly, items were revised by making related modifications. Their feedback helped refine the survey items to ensure the representation of key components in their experiences.

In the qualitative data analysis, an exploratory inductive approach was utilized to move from raw data to the presentation of a composite set of themes. The researcher held an insider position to shape the interpretations advancing a holistic picture of the participants' experiences. Firstly, raw data were organized and read several times by writing memo notes. Second, initial codes were generated by labeling emergent themes embedded in the responses and extracting significant statements. Third, similar statements were grouped and clustered followed by the elimination of repetitive items and redundancies, and the revision of emergent layers. Next, codes were clustered into broader themes to obtain a description of participants' stance towards the use of AI in L2 writing, invariant structures were identified and definitions

for each theme were revealed. Last, a narrative for each theme was constructed and the essence of the description was reported. Spending prolonged time in the field, writing memos about the codes, and cross-checking codes with corresponding themes (Creswell & Poth, 2018) were used to contribute to the credibility of the findings. The stages followed in the data analysis procedure are illustrated in Figure 1.

Figure 1. Steps of qualitative data analysis as suggested by Creswell and Poth (2018)
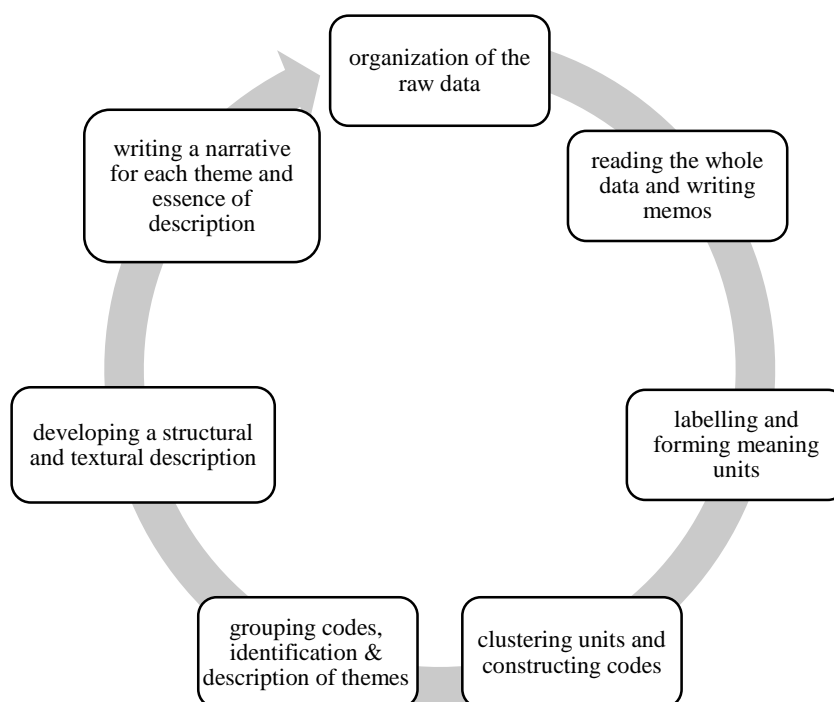
Results

This study explored pre-service teachers' and teacher trainers' perceptions of the use of AI in language learning and teaching. The inductive thematic analysis revealed five emerging themes: (a) functions and purposes of using generative AI in EFL writing, (b) potential affordances of generative AI in the development of writing skills, (c) ethical concerns, challenges, and limitations (d) proposed solutions and suggestions, (e) needs for enabling legitimate use of generative AI in writing skills.

Functions and purposes of using AI in EFL writing

Pre-service English language teachers and teacher trainers consistently emphasized several purposes and functions of using AI in L2 writing. Specifically, they noted that AI is used for language support, pre-writing and idea generation, generation of texts, search engine, generation of language patterns, and instant and personalized feedback. Using AI tools for language support was situated around language editing, and checking grammar accuracy. Searching for background information about the writing topics, constructing creative thinking, generating predictions, revising mechanics, gaining familiarity with spelling, and verifying

information revealed through search engines. The following responses illustrate students' understanding of functions and utilization of AI in their writing procedures:

> "I provide AI with an essay prompt, generate a sample text. After reading this model text, I write my own text and compare both texts in terms of their content and grammar. Then, I make revisions and shape the final draft accordingly."
> "I use AI to brainstorm ideas during the writing process. But I think copy and paste is unethical. After constructing my text, I get an output from ChatGPT, ask it to score my text based on the rubric, and check grammar along with other missing parts."

The majority of pre-service teachers noted that they frequently use AI tools for overcoming writer's block and moving forward when they get stuck in finding out further ideas and forming sentences. In parallel to these responses, teacher trainers indicated that their students commonly use generative AI tools as a language editor or for drafting assignments, as portfolio preparation for writing classes. Different from these functions, teacher trainers mostly expressed their concerns and worries noting that students view generative AI tools as a shortcut to finding direct answers instead of conducting extensive research. They were particularly critical of unethical uses and put forth the frequent use of generative AI tools to achieve higher course grades without active participation or fulfilling course requirements. They specifically reported that most students use generative AI tools relying on the generation of complete texts, especially for essay assignments. They suggested the need for using AI as a profitable search engine for academic purposes.

Overall, both pre-service teachers and teacher trainers expressed their positive prospects and perspectives about the use of generative AI tools in L2 writing. Pre-service teachers expressed pedagogical benefits such as serving as a tool for improving other language skills, saving time, reducing heavy workload, and enabling easy and quick completion of course requirements. Different from them, teacher trainers noted that students need to be encouraged to utilize AI tools as a supplementary resource rather than a primary source of information. They argued that finding ways to avoid dependency on AI tools for generating content would be a prerequisite in the effective exploration of various functions. They further expressed the need for balancing the convenience of AI tools with the importance of thinking and creativity. They foregrounded the need for training about legitimate use of these tools. Acknowledging the functions and benefits of AI, they expressed the need for human agency in eliminating potential disinformation and reaching expected outcomes.

Potential affordances of AI in EFL writing

Considering pedagogical uses of AI, both groups of participants expressed several benefits such as saving time, carrying out comprehensive research about a topic, enhancing literacy skills in L2, getting personalized feedback, effective generation of ideas, forming text outlines, enriching the content of writing skills courses, generating new lexical items about the given topic, timely completion of assignments. They specifically foregrounded these benefits by recognizing the time and labor-saving benefits of AI tools while preserving their unique use cases. The following extract of a teacher trainer illustrates these benefits:

> "It is very helpful, almost like a private tutor you can reach whenever you want, and a very knowledgeable teacher, especially in the field of grammar, cannot be another way to get feedback faster and more accurately, you can also ask for examples of the title you will write and you can be inspired by these examples."

Different from these commonly noted advantages, the teacher trainers reported the uses and benefits for instructors and students. The reported functions and uses of these tools for instructors and students are presented in Table 1.

Table 1. *Reported functions and uses of these tools for instructors and students*

Instructors	Students
• preparation of paraphrasing practices • carrying out an in-depth analysis of functions of coherence and cohesion devices • generation of essay prompts • preparing tasks to practice the target genre • generating and analyzing model texts • listing lexical chunks and topic vocabulary.	• generating sources for gathering background information about a topic • constructing different contexts • varying the content and quality of a text • carrying out in-depth research about a topic • getting feedback about synonymous words, and enabling lexical variety in texts • improving the organization of texts, sample use of APA rules • critical evaluation and verification of information and reference sources.

These functions are illustrated in the following response of a teacher trainer:

> "It especially improves their own texts in terms of language, provides both practical and individualized feedback in the evaluation of mechanical elements such as grammar, spelling mistakes, etc. Especially in large student groups, it is difficult for instructors to focus on all these or students may receive feedback late. However, it is possible to get instant feedback with AI. In fact, when the appropriate prompt is used, it can even give good feedback for in-text consistency, use of conjunctions, etc."

Among these highlighted functions, a predominant argument was proposed considering the elimination of inequalities and the digital divide among the students. The overwhelming majority of participants attributed the benefits of AI to promoting social justice in language education. They stated that these tools and their facilities cultivate equal access to information and available courses among students. They further noted that AI tools help to serve to bridge the digital divide among students, enhance academic achievement, ensure equal access to information, and overcome inequalities in language education contexts as exemplified below:

> "I believe that everyone will tremendously gain from artificial intelligence in terms of production and opportunity equality. For instance, there is a difference in educational attainment between a student who must work to support himself/herself and a student who is supported by family. It is conceivable to discuss a situation in which a student receiving family support has more time to do in-depth study and compose their assignment, whereas the student from a disadvantaged background does not have the same chance and produces work of lesser quality."

While some concerns were raised about the reliability of the generated content, some prerequisites were suggested for offering potential benefits in L2 writing development. More specifically, they suggested utilizing AI tools as a tool rather than as a primary source. The use of AI in constructing texts about unfamiliar topics, generation of original ideas without a heavy reliance on AI tools, and fostering a critical mindset were suggested prerequisites to reach a full array of pedagogical potentials.

Ethical concerns, challenges, and limitations

Regarding pedagogical challenges, ethical concerns, and drawbacks, teacher trainers provided a more critical stance suggesting concerns about violation of academic integrity principles. Two divergent and often conflicting discourses emerged with respect to hindrances of the aforementioned functions. One line of argument was attributed to incognizant use and excessive reliance on the consultation of generative AI tools in text creation and task completion procedures. Another line of thought suggested a trenchant criticism by labeling students with laziness, passive consumerism, negligence, and misconduct. They raised concerns about students' tendency to excessive dependency on unethical uses and unreliability and ineffectiveness of assessment and evaluation. These views were echoed by the majority of teacher trainers who indicated that generative AI tools pose a threat to the value of learning, in-class teaching, teachers' novel contribution, and mutual respect in language education contexts as illustrated in the following response:

> "Lack of education is the basis of an unconscious and ignorant society. Apart from laziness and passive consumerism, they increase students' tendency to copy and paste texts. It endangers the value of learning and classroom education. It devalues roles of teachers and instructors in the classroom. The loss of credibility of assessments outside the classroom is another consequence."

A small number of participants noted that they would not support their students' AI use due to potential challenges and they foregrounded negative attitudes as shown in the following excerpt:

> "I do not think I will be a supporter. I strongly believe that these practices hinder students' development and prevent them from enhancing their researcher and practitioner spirit."

The negative comments were associated with hindrances to students' production of original ideas and creativity. Frustration with cheating, plagiarism, and misuse was specifically prominent among teacher trainers, while they expressed dissatisfaction with students resorting to copying and using generative AI tools to submit exam answers and assignments. Teacher trainers provided further criticisms of the time-consuming and demanding assessment and evaluation processes in L2 writing. Specifically, they referred to struggles in evaluating AI-generated content, detecting plagiarism, and ensuring fair assessment in the absence of clear guidelines and regulations. They also criticized the use of these tools for lack of support to students' progress, and little contribution to their language learning.

> "I think that the use of such applications will prevent students from developing their language skills, but will also negatively affect their development in research and analysis."

Parallel to the perceived threats, concerns were expressed regarding the ineffectiveness of generative AI detection tools as exemplified in the following response:

> "You cannot evaluate the text produced by AI as a copy unless there are institutional roadmaps and regulations, especially in the writing activities used in assessment and evaluation. This can sometimes result in lower grades for self-taught students because there is no legal basis to prove you suspect or detect AI."

Further concerns were expressed about eliminating the practice stage of the writing procedure and devaluing the role of students' engagement and authentic efforts in the writing procedure as shown in the following excerpt:

> "Texts written to AI will cause students to be unable to produce text individually in the long run, since writing is a skill that develops by typing. The use of AI unfortunately removes this practice phase. Another problem is that the cognitive processes we go through while writing actually disappear."

When asked about their perspectives on the use of generative AI by their students, pre-service English language teachers noted two differing ideas. Some stated that these tools fulfill several beneficial functions in the writing stages, while others considered that the use of these tools could violate principles of academic integrity. The concerns were expressed acknowledging various affordances. These views surfaced mainly in relation to hindering creativity, productivity, and critical thinking skills. They also touched upon the limitations of AI tools such as the generation of misleading information, falsified references, and limited functions. Both groups of participants agreed with the statement that there is a need for differentiating between using generative AI tools for learning purposes and simply completing tasks. They also touched upon a decreased interaction between students and teachers, which lead to insufficiency and ineffectiveness of mutual understanding and timely feedback to students. These concerns were related to students' tendency to become dependent on applications instead of receiving one-to-one feedback and guidance from their teachers.

Proposed solutions and suggestions

Acknowledging the aforementioned drawbacks and limitations, participants proposed concrete solutions and suggestions to overcome them. One common view amongst participants was that teachers need to view generative AI as an agent of change rather than a threat to their roles and students' process in L2 writing procedures. Highlighting the importance of incorporating AI applications and embracing their affordances, specifically in teaching writing and related subjects, they suggested the cultivation of a more positive stance towards the integration of AI into course curriculum and avoiding ignorance, overcoming prejudices, and accepting their existence without being judgmental. Building on this point, they suggested the implementation of educational and social activities to foster students' understanding of how to use accurate information responsibly and critically evaluate the information they access. Accordingly, they recommended the organization of professional development activities such as training, workshops, and seminars to integrate generative AI tools into their teaching practices effectively as illustrated in the following excerpt:

> "An average of 1000 AI tools is launched per month, conventional professional development events, seminars etc. will remain insufficient. Online professional social networks make a lot of sense. Apart from that, it is difficult to get results without legal regulations, without these ethical rules and the consequences of violations of these rules are notified to students."

As concerns regarding ethical violations and academic misconduct were widespread among pre-service teachers and teacher trainers, they suggested teaching students how to use generative AI tools effectively, legitimately, and responsibly by leveraging AI tools to enhance writing skills through dialogue and providing examples. Accordingly, they drew attention to the importance of encouraging independent writing and cultivating critical thinking skills through a set of face-to-face interactions and synchronous activities. They further proposed improving learners' and teachers' AI literacy skills to determine the validity of AI-generated content, and fully benefit from the affordances of these tools.

Another suggestion was an interactive discussion of ways to improve the accuracy and reliability of AI detection tools to ensure fair assessment and evaluation of student writing, especially in cases of paraphrasing and generating similar content. The teacher trainers addressed the difficulties in evaluating written assignments due to students' heavy reliance on the use of generative AI tools. To overcome this challenge, they specified the use of standard, clear guidelines and legal frameworks to determine the validity of AI-generated content.

To overcome limitations and potential threats, they suggested the idea of conducting writing activities in a synchronous and in-person setting, followed by utilizing AI tools for feedback and evaluation, potentially using checklists or criteria for assessment. They drew attention to potential misdetection of generative AI use, which could cause negative consequences such as discouragement of learners. To avoid such issues, they suggested a careful manual analysis of the output of AI-generated detection tools, differentiation of AI-generated texts, and students' original texts.

Relatedly, they proposed being critical of the reliability of generative AI detection tools to ensure fair assessment and evaluation of student writing as shown in the following quote by a teacher trainer:

> "Unless there are institutional regulations, especially in writing competencies used in assessment and evaluation, you cannot consider the text produced by AI as plagiarism. This can sometimes lead to lower grades for students who do their own work, because there is no legal ground to prove that you suspect or detect AI. This is an important problem especially for the future of students who are trying to get somewhere with their scores and who really do it with their own work. It's like digital nepotism, I got in not through a relative but through my AI friend."

It is noteworthy that one pre-service teacher suggested overcoming existing resistance and bias among learners and teachers in language education as illustrated in the following excerpt:

> "In order to keep up with the times and compete in the current workforce, students need to know how to use these tools. University is an institution that prepares students for life and I do not find it right in conscience to deprive students of a tool that makes life easier."

Overall, both groups of participants proposed solutions regarding the development of AI literacy, policies, principles, assessment, and evaluation techniques.

Needs for enabling legitimate Use of AI in L2 writing

The participants drew attention to four significant and related points: pedagogical guidelines and documents, developing a sense of academic integrity, shifting assessment approaches, legal regulations, and advanced detection tools. Considering the first point, participants' needs for pedagogical guidance and training in the use of instructional materials, guidelines, and documents that focus on integrating generative AI in language teaching. They elaborated on the significance of establishing clear communication of purpose and usage. They particularly emphasized the importance of transparently communicating the intended purposes of using generative AI tools to students and allowing their use for those specific purposes. Teacher trainers underlined that there is an urgent need for continuous professional development. Acknowledging the dynamic nature of AI advancements, they expressed a need for suggestions about the use of online professional networks, such as Twitter, to stay updated on professionals' experiences and practices. They viewed teacher training and awareness as crucial elements for utilizing AI tools in language education settings, specifically in L2 writing. They expressed their recognition of the importance of providing teachers with

training, workshops, and seminars to integrate AI tools into their language teaching practices effectively.

Second, the majority of participants noted the significance of developing a sense of academic integrity and raising students' awareness about academic principles and policies. To further emphasize this point, they highlighted the need to provide additional training on how to cite sources properly and emphasize the importance of incorporating citation instruction in the curriculum. They referred to the need for students to have a strong sense of ethical responsibility and academic integrity when it comes to completing assignments and fulfilling other course requirements. Nevertheless, one teacher trainer referred to the demanding nature of cultivating positive mindsets about the value of learning as shown below:

> "Since most of the students have a tendency to fulfill a goal easily and quickly, any long rough or indirect path will not be attractive to them. I cannot find a solution."

Third, several participants confirmed that there is an urgent need for shifting assessment approaches in L2 writing. Specifically, they proposed a move away from result-oriented exams and suggested the adoption of performance-based and process-oriented assessments. They pointed out the importance of cultivating the value of the learning process over the product among language learners. They noted that there is a need to acknowledge the importance of teaching students the value of honesty, discouraging cheating and manipulation, and emphasizing the learning process over assessment.

Finally, an overwhelming majority of participants focused on the urgent need for and dissemination of legal regulations and advanced detection tools in L2 writing procedures. They addressed the need for legal frameworks, administrative support, and improved AI detection tools capable of identifying paraphrased AI-generated content, along with the availability of free membership to such tools to enable the legitimate use of AI in L2 writing.

Discussion and Conclusion

This study explored the conceptualization of generative AI use in tertiary-level EFL writing skills in an initial teacher education program and deciphered pedagogical stances of pre-service teachers and teacher trainers.

Firstly, reflections of pre-service teachers and teacher trainers regarding the functions and purposes of AI tools in EFL writing development were elicited. Overall, they centered on fulfilling processes of writing different text types. The pedagogical uses are completing a previously constructed text, editing and revising a completed work, checking the mechanics and language of a text, brainstorming a topic and completing the pre-stage of a text, and searching for further ideas. This finding conforms to the previous research which suggested that ChatGPT is used to carry out several stages of the writing process such as choosing a topic, brainstorming, outlining, drafting, getting feedback, revising, and proofreading texts (Anders & Sahakyan, 2023). Acknowledging these functions, generative AI offers pedagogical opportunities "such as motivating new conversations and policies about academic integrity, inspiring a rethinking of teaching practices, and supporting the development of critical media literacy skills" (Trust et al., 2023, p. 11).

Second, this study revealed participants' reflections on the pedagogical benefits and potential limitations of generative AI in EFL writing. One significant finding was affordances regarding the provision of instant and personalized feedback on learners' texts. Another important finding was the reflections on the facilitative role of AI tools in providing equal access to information and eliminating further inequalities. These results yield current

discussions in the literature. One line of arguments suggests that AI tools may widen the digital divide by limiting the free version and prohibiting their use in certain school settings and districts (Trust et al., 2023). Another divergent argument is the recreation of new ethical risks such as hindering learners' autonomy, yielding inequalities, disadvantaging learners, and inducing increased student surveillance (Akgün & Greenhow, 2022). In the literature, further risks are centered on the debilitative role of AI in imposing monocultural ways of writing (Rettberg, 2022), hindering students' individual writing styles (Cheuk, 2021), generating misinformation (Trust et al., 2023; May, 2023) and biased and harmful content (Cheuk, 2021; Perrigo, 2022; Trust et al., 2023). Unequal access to the AI tools and lack of multilingual data were additional elements yielding unfairness (Kasneci et al., 2023). In the current study, these concerns were raised by teacher trainers. They put forth AI-generated misleading information, falsified references, and limited functions. Recognizing and addressing these biases and other risks could be eliminated through the integration of human agency and professional training for educators (Kasneci et al., 2023).

Third, the study documented a basic difference between pre-service teachers and teacher trainers in the conceptualization of the use of AI tools in L2 writing. Teacher trainers reported being distressed and relatively more resistant and opposed to the integration of AI in L2 writing. They foregrounded concerns about the lack of ethical guidance specifically for assessment and evaluation. Since teachers' engagement and formation of AI-integrated language learning plays a vital role in the effectiveness of learning (Yang & Kyun, 2022), the distinction between using and promoting AI tools could be enabled via well-defined objectives, practical experience, and desired outcomes (Godwin-Jones, 2022). Notably, teacher trainers noted that AI tools offer potential risks to learners' engagement and authentic efforts in the writing procedure. Addressing these concerns, Trust et al. (2023) noted that ChatGPT forms texts privileging certain styles of using language, providing unfair grading, and hindering students' idiosyncratic and culture-specific ways of writing.

One prominent finding emerging from the present study was concerns about decreased interaction between students and teachers and the reflections on the transformative role of AI in EFL writing and the need to reformulate assessment evaluation. Previous research suggested that AI tools in writing shouldn't "distract students from the communicative purpose of writing" and they should be incorporated "into a wider writing program emphasizing authentic communication" (Grimes & Warschauer, 2010, p. 34). This argument was proposed as a suggestion in the responses of teacher trainers. They emphasized the importance of enhancing AI literacy skills among both students and teachers, designing engaging AI-supported L2 writing tasks, and fostering the development of critical thinking and reasoning abilities, integrating citation practices into L2 writing curriculum. In previous research, further pedagogical suggestions are listed as promoting student learning by customizing the difficulty of complex reading passages, facilitating the revision process, and stimulating reflection on the disparities between students' own writing and AI-generated writing (Tseng & Warschauer, 2023).

Last, this study unveiled the need for enabling the legitimate use of generative AI in EFL writing. The perspectives were centered on the necessity of pedagogical guidelines and documents, developing a sense of academic integrity, shifting assessment approaches, legal regulations, and advanced detection tools. Particularly, the participants reported the need for training and guidelines for effective generative AI tool usage, clear guidelines, and legal frameworks to determine the validity of AI-generated content. Previous research documented similar needs with a focus on the importance of redefining plagiarism, establishing regulatory policies, and offering pedagogical guidance to ensure the appropriate use of AI-supported tools (Yan, 2023). Developing policies against the misuse of generative AI is needed

(Dwivedi et al., 2023), and providing technical support to EFL teachers for AI-supported EFL teaching (Jiang, 2022) is also noted. Considering these concerns, we need a careful interrogation of the intended and unintended consequences of the integration of generative AI in L2 writing and language learning in general.

Implications

Considering the findings of this research and building on the ongoing controversial discourse surrounding AI-supported L2 writing, several pedagogical implications could be proposed. Firstly, we need to adopt a critical stance to embrace the coexistence of human agency and AI tools in L2 writing development. More specifically, generative AI tools can offer self-assessment tools, reflective writing prompts, and instantaneous personalized feedback. Through the integration of automated and teacher feedback that is constructive and encouraging, teachers can enhance learners' positive emotional strategies, ultimately increasing their engagement in the writing process. They could also serve to overcome affective barriers and writer's block experienced specifically at the beginning of the writing process.

Second, this study documented several positive experiences regarding language support and facilitation of process writing in L2. The retrieval and integration of AI-generated genre-based concordance lines and lexical items could support L2 writing development. Acknowledging these reported benefits, this study revealed perspectives regarding the prominent impacts of generative AI in eliminating inequalities and disrupting the digital divide among students. To respond to these potential benefits, L2 teachers, pre-service teachers, and teacher trainers could be provided with training sessions to integrate AI tools into the design of lesson plans and provide feedback to learners' texts. Designing training and workshops to construct well-structured prompts as an input to generative AI and critically analyze AI-generated output could fulfill promising benefits in the initial and in-service teacher training programs.

Third, this study documented reflections on the transformative impact of L2 writing and the need for reconceptualizing the assignments and tasks. Adopting formative assessment tools, designing and varying language learning tasks could help overcome resistance to AI tools and embrace potential affordances for learners. To challenge the experienced difficulties, we need to revisit assessment and evaluation in L2 writing skills and move away from result-oriented exams suggesting the adoption of performance-based and process-oriented assessments. Further, enhancing AI literacy skills among learners, teachers, and teacher trainers could enable the designing of engaging AI-supported L2 writing tasks, and foster the development of critical thinking and reasoning abilities. Accordingly, raising questions about the validity of AI-generated content could help the cultivation of these skills.

Next, this study uncovered a need for the cultivation of AI literacy skills among L2 learners and teachers and the construction of regulations, materials, guidelines, and documents to enable the legitimate use of generative AI tools according to academic integrity principles. Teachers could integrate AI tools into their course syllabus and mitigate the drawbacks of cheating (Watkins, 2022). A suggested list of tools and guidelines for AI integration is presented in the Appendix.

Future research could focus on different layers of tertiary education to unveil learner tendencies, conceptualizations, and affective variables and uncover ways of expanding and enriching these learners' AI use. Further research could investigate context-specific along with skill-based challenges and opportunities of implementing AI tools in different educational settings. Future research could uncover cultural factors, years of experience, and

digital literacy skills influencing pre-service English language teachers' attitudes toward generative AI integration in language classrooms. An experimental study could delve into the effectiveness of AI-integrated language lessons with specific teaching methods in the acquisition of L2 skills.

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No potential conflict of interest was reported by the authors.

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Appendix

Survey Questions

1) For what purposes do you observe that your students use artificial intelligence-based tools (such as Bard, ChatGPT, Perplexity) in their English text writing processes?

2) Would you support your students to use artificial intelligence-based applications in their English writing and text production processes? From where? Explain briefly.

3) What are the benefits of using artificial intelligence-based applications in writing texts while learning English?

4) What are the negative effects and possible ethical problems caused by the use of artificial intelligence-based applications in writing texts while learning English?

5) In light of these problems, what are your suggestions for your students to use artificial intelligence-based applications in accordance with ethical principles in their English text-writing processes?

6) What do you need to ensure that your students use artificial intelligence-based applications in accordance with ethical principles in their text-writing processes?

7) When you become a teacher, do you support your students to use artificial intelligence-based applications such as ChatGPT in their writing and text production processes? From where? Explain briefly.

Tools and Guidelines for AI Integration

Ethical Guidelines for the use of AI tools	a) Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators. https://op.europa.eu/o/opportal-service/download-handler?identifier=d81a0d54-5348-11ed-92ed-01aa75ed71a1&format=pdf&language=en&productionSystem=cellar&part b) Ethical AI use checklist for students. https://www.turnitin.com/lessons/academic-integrity-in-the-age-of-ai-ethical-ai-use-checklist-for-students
AI misuse rubric	AI misuse rubric: https://www.turnitin.com/papers/academic-integrity-in-the-age-of-ai-misuse-rubric
Integrating AI Tools to Course Syllabus.	Watkins, R. (2022). Update Your Course Syllabus for ChatGPT. https://medium.com/@rwatkins_7167/updating-your-course-syllabus-for-chatgpt-965f4b57b003
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