

EFL pre-service teachers' acceptance of ChatGPT for writing: A sequential explanatory mixed-method study

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ABSTRACT

This study aims to examine EFL pre-service teachers' acceptance of ChatGPT for their writing. In this context, acceptance refers to the pre-service teachers' willingness and intention to use ChatGPT as a support tool for their academic writing tasks. A sequential explanatory mixed-method approach was employed, combining a Technology Acceptance Model (TAM) questionnaire with semi-structured interviews. Initially, 143 EFL pre-service teachers from four universities in Surakarta, Indonesia, completed the TAM questionnaire to assess their acceptance of ChatGPT. Subsequently, semi-structured interviews were conducted with 12 participants to gain deeper insights into their perspectives on using ChatGPT for writing, a fundamental skill in EFL that demands high levels of linguistic accuracy, organization, and creativity, making it particularly sensitive to the influence of Artificial Intelligence tools like ChatGPT. The results revealed that the participants generally perceived ChatGPT as useful and easy to use, with a positive attitude toward the tool. Despite these favorable perceptions, the behavioral intention to use ChatGPT regularly was markedly lower, with participants expressing concerns about becoming overly reliant on AI. Qualitative data further confirmed that while participants acknowledged the potential of ChatGPT, many felt that further training and experience were necessary to integrate the tool effectively into their teaching practices. Ethical concerns (student over-reliance, which may lead to academic dishonesty) surrounding the over-dependence on AI for academic tasks were also noted. The findings highlight the need for targeted professional development and the careful consideration of ethical implications in integrating AI tools into language teaching, particularly for writing instruction.

Keywords: ChatGPT; EFL pre-service teachers; sequential explanatory mixed-method; writing

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INTRODUCTION

In foreign language learning, writing is broadly recognized as one of the most essential yet demanding skills to deal with. It requires not only a solid grasp of vocabulary, grammar, and syntax but also an understanding of discourse structure and the ability to organize thoughts logically (Graham et al., 2024). This complexity is particularly pronounced in

the context of English as a Foreign Language (EFL), where learners face numerous obstacles in achieving effective written communication (French, 2020). EFL teachers encounter a variety of challenges when fostering writing skills among students, including issues like a lack of motivation, limited exposure to authentic language materials, and insufficient opportunities for personalized feedback

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(Nugroho et al., 2024b). Additionally, traditional writing instruction methods often fall short of addressing the diverse needs of learners, highlighting the urgent need for more innovative and adaptable teaching strategies (Basgier & Simpson, 2020; Rahman & Ekkayokkaya, 2024). In response to these challenges, there has been a growing emphasis on exploring alternative methods that integrate modern technological tools, aiming to enhance writing instruction within EFL contexts.

The advent of artificial intelligence (AI) has led to substantial changes across multiple fields, particularly within the realm of education. AI-driven tools hold the promise of radically changing the teaching of writing, especially within language learning environments (Adams & Chuah, 2022). These innovative technologies provide valuable support to educators and students, offering immediate feedback and engaging approaches to the writing process (Kasneji et al., 2023; Kohnke et al., 2023). Among the AI tools gaining traction in educational settings is ChatGPT, an advanced language model created by OpenAI. This model has demonstrated considerable potential in enhancing different aspects of language learning, including reading, speaking, listening, and especially writing (Hsu et al., 2024; Law, 2024). As educational institutions increasingly adopt digital technologies, investigating the role of AI-powered applications like ChatGPT in writing instruction has become more pertinent. This study is directed to explore the acceptance of ChatGPT among EFL pre-service teachers and to examine their perspectives toward the AI chatbot for developing their writing skills.

ChatGPT, which is grounded in the Generative Pretrained Transformer (GPT) architecture, showcases remarkable capabilities in producing human-like text in response to prompts. This versatility makes it a powerful resource for various applications, particularly in language learning and writing assistance (Barrot, 2024). A key attribute of ChatGPT lies in its capacity to produce coherent and contextually appropriate text, positioning it as a beneficial tool for learners seeking to improve their writing abilities (Levine et al., 2024). Research has indicated that ChatGPT could support multiple stages of the writing process, from brainstorming and drafting to revising and editing (Niloy et al., 2024; Nugroho et al., 2024a). Studies have also revealed that AI models like ChatGPT not only facilitate writing practice but also provide immediate feedback, encourage self-correction, and cultivate critical thinking abilities (Ghafouri et al., 2024; Nugroho et al., 2024a; Özçelik & Ekşi, 2024; Werdiningsih et al., 2024). Furthermore, ChatGPT's aptitude for simulating real-life conversations allows learners to interact with the model in an engaging and dynamic manner, thereby enriching the overall language learning experience (ElSayary, 2024; Teng, 2024). These qualities position ChatGPT as a

potentially transformative tool for EFL students and teachers, especially in their quest to enhance their writing skills.

A thorough review of recent studies reveals a growing interest in utilizing AI-powered tools, such as ChatGPT, for language learning. Song and Song (2023) conducted a study exploring the effectiveness of ChatGPT in enhancing writing skills across various English as a Foreign Language (EFL) classrooms. The findings indicated that students who engaged with ChatGPT showed marked improvements in both writing fluency and accuracy, alongside a heightened motivation to participate in writing activities. Similarly, Niloy et al. (2024) demonstrated that ChatGPT's capacity to provide instant feedback enabled learners to identify and rectify errors in their writing, resulting in more polished and cohesive outputs. Additional research, including the work of Boudouaia et al. (2024), has emphasized ChatGPT's potential to deliver personalized learning experiences tailored to the unique needs of individual students. Furthermore, ChatGPT's role as a "virtual tutor" has been shown to facilitate learners in developing their linguistic and cognitive skills, fostering a deeper understanding of language structures and writing conventions (Ulla et al., 2023). Although the existing literature highlights the benefits of ChatGPT in language acquisition, there remains a pressing need for further investigation, particularly concerning its application in enhancing foreign language writing skills.

Several studies have specifically examined the use of ChatGPT to bolster writing proficiency among language learners. Polakova and Ivenz (2024) revealed that incorporating ChatGPT into writing curriculum for EFL students led to increased writing output and encouraged a more interactive learning environment. The tool's feedback on structure, grammar, and vocabulary supported students in a continual revision process, which is essential for improving writing proficiency (Mahapatra, 2024). Additionally, Nugroho et al., (2024a) discovered that EFL students who utilized ChatGPT as a collaborative writing tool reported a boost in their writing confidence, as they engaged in real-time discussions with the AI about their work. Ghafouri et al. (2024) further illustrated that ChatGPT could effectively assist learners in developing both academic and creative writing skills, making it a versatile resource for various writing contexts. These studies suggest that ChatGPT presents significant potential for enhancing writing skills in EFL learners, yet further research is essential to evaluate its broader applications and long-term effects.

Moreover, recent studies have highlighted both the promise and the challenges of using ChatGPT in EFL writing contexts. Balatero et al. (2024) explored ESL pre-service teachers' literacy,

awareness, and acceptance of ChatGPT, finding overall positive perceptions despite concerns about inaccurate responses and potential plagiarism risks. Similarly, Pham (2025) reviewed literature on ChatGPT as a learning assistant for EFL writing skills, emphasizing its benefits in promoting engagement, personalized feedback, and time efficiency, while cautioning against issues like overuse and misinformation. Baskara (2023) discussed the integration of ChatGPT into EFL writing instruction, noting that its natural language capabilities can motivate learners but also pointing out design, implementation, and ethical concerns. Lubis (2024) provided a broader preliminary portrait of ChatGPT's potential uses and concerns in EFL academic writing classrooms, stressing the need for contextually sensitive application in Asian educational settings. Together, these studies indicate the growing interest in ChatGPT as a tool for improving writing skills, while also acknowledging the ethical, pedagogical, and practical challenges associated with its use.

While the existing research presents promising findings, the extent to which EFL pre-service teachers—future educators—specifically accept and intend to use ChatGPT for their own writing purposes, rather than for instructional purposes alone remains not clearly captured yet. Understanding pre-service teachers' acceptance is crucial because they represent the next generation of educators, and their early perceptions and readiness to integrate AI tools like ChatGPT will inform future teaching practices. Investigating their views allows for better preparation and training before they enter the professional field. Moreover, limited studies employ a sequential explanatory mixed-method approach to deeply investigate both the quantitative trends and qualitative insights in this area. Addressing this gap, the present study focuses on examining EFL pre-service teachers' acceptance of ChatGPT for writing, providing a nuanced understanding essential for informing future teacher training and AI integration in language education. The research is guided by two main questions, as follows.

- (1) To what extent is the level of acceptance of ChatGPT among EFL pre-service teachers for writing, and what factors influence their acceptance?
- (2) How do the teachers perceive the potential of ChatGPT to support their writing skill development?

Exploring EFL pre-service teachers' acceptance of ChatGPT can be a means of understanding writing practices assisted by the use of Artificial Intelligence technology and to gain insights into their perspectives toward its utilization for developing writing skills. The findings are expected to expand both theoretical and practical

knowledge in the realm of language education, especially regarding the integration of AI tools in teaching writing. The findings from this study could potentially inform teacher training programs, offering valuable insights on how EFL pre-service teachers can effectively weave AI tools into their teaching methodologies. Furthermore, this study has potentials to enrich the broader discussion on the future of language education in an increasingly digital landscape.

METHOD

Research Design

This study employed a sequential explanatory mixed-methods design (Creswell, 2016) to investigate the acceptance and potential benefits of ChatGPT among EFL pre-service teachers for writing. The sequential explanatory approach was selected for its capacity to gather both quantitative and qualitative data in two separate phases, thereby offering a comprehensive view of the subject under investigation. In the initial phase, a survey was conducted to collect quantitative data regarding the pre-service teachers' acceptance of ChatGPT. This was followed by a qualitative phase in which semi-structured interviews delved deeper into the perspectives of using ChatGPT to enhance writing skill. This methodological combination was empirically validated; the quantitative survey measured overall acceptance, while the qualitative interviews provided nuanced insights into EFL pre-service teachers' perspectives on how the tool influences writing skills, resulting in a well-rounded exploration of the research questions.

Participants

The participants were 143 third-year EFL pre-service teachers from four universities in Surakarta municipality, Indonesia. A purposive sampling method was employed, focusing on three criteria: (1) completion or current enrollment in internship and/or micro-teaching courses, (2) experience using ChatGPT to assist with teaching writing skills, and (3) utilization of ChatGPT for their own writing tasks. Prior to data collection, informed consent was obtained from all participants. They were provided with clear information regarding the purpose of the study, the voluntary nature of their participation, the confidentiality of their responses, and their right to withdraw at any time without any negative consequences. Ethical approval for the study was secured from the university's ethics committee, and all procedures adhered to ethical guidelines for research involving human participants.

Further, a subset of 12 participants (addressed as P₁ – P₁₂) was selected for semi-structured interviews to gain further insights into their perspectives toward ChatGPT for writing. The participants for the semi-structured interviews were

selected based on their willingness to participate, ensuring a voluntary process without coercion, and were chosen to represent a range of responses from the survey data to capture diverse perspectives. All participants who were invited consented to be interviewed, and ethical measures were taken to minimize power imbalances by emphasizing the voluntary nature of participation and assuring participants that their responses would have no impact on their academic standing. This approach ensured that all participants possessed relevant experience with both the tool and the context of writing instruction.

Instrument and Data Collection

This study incorporated two primary data collection tools. First, an online survey questionnaire, adapted from the Technology Acceptance Model (TAM) developed by Davis (1989). The Technology Acceptance Model (TAM) by Davis (1989) was selected because it has been widely used and validated in various contexts to explore users' acceptance of new technologies, particularly in educational settings. It provides a structured framework to assess factors that influence technology acceptance, such as perceived ease of use, perceived usefulness, attitudes toward use, and behavioral intention to use. The TAM constructs were adapted to specifically address the context of using ChatGPT for writing tasks. The original items were adjusted to reflect how the tool influences writing ability, productivity, and teaching, rather than general technology use. For example, the construct of Perceived Usefulness was modified to assess how ChatGPT supports writing and teaching tasks, with items like *"Using ChatGPT improves my writing ability"* and *"Using ChatGPT increases my writing productivity."* Similarly, the Attitude Toward Use and Behavioral Intention to Use constructs were tailored to focus on writing-specific engagement, such as *"I intend to continue using ChatGPT for writing"* and *"I enjoy using ChatGPT for writing."* Each construct was assessed using four statements, with participants responding on a four-point Likert scale (strongly agree, agree, disagree, and strongly disagree). This instrument aimed to evaluate EFL pre-service teachers' overall acceptance of ChatGPT for writing.

The second instrument was a semi-structured interview protocol intended to explore participants' perspectives towards the use of ChatGPT in teaching and composing writing. These interviews focused on the tool's advantages in facilitating the teaching writing and the writing process, such as improving writing fluency, providing instant feedback, and enhancing language proficiency. Conducted either face-to-face or through phone calls and Zoom meetings - based on participant preference and availability - the interviews took place after the survey data collection.

Data Analysis

For the data analysis, we began by examining the survey data using descriptive statistics through SPSS version 26. These statistics, including frequency counts, means, and standard deviations, helped us gauge the level of acceptance of ChatGPT among EFL pre-service teachers. This analysis provided valuable insights into participants' general perceptions regarding ChatGPT's ease of use, usefulness, attitudes toward its use, and their intentions to continue utilizing ChatGPT for writing. In the subsequent phase, we transcribed the interview data and performed thematic analysis following Braun and Clarke's (2006) six-phase framework. First, we familiarized ourselves with the data by reading and rereading the transcripts while noting initial ideas (e.g., noticing frequent mentions of "saving time" and "improving vocabulary"). Next, we generated initial codes such as "efficiency," "writing assistance," and "ethical concerns." In the third phase, we searched for themes by collating codes into potential overarching themes, such as "Perceived Benefits" and "Ethical Reservations." Then, we reviewed the themes by checking if they worked in relation to both the coded extracts and the full dataset. After that, we defined and named the themes clearly, such as refining "Perceived Benefits" into specific subthemes like "enhanced productivity" and "improved lexical variety." Finally, we produced the report by selecting vivid examples from the data to illustrate each theme (e.g., a participant stating, *'ChatGPT helps me write faster, but sometimes I doubt if it's too easy to trust.'*). This approach allowed for a deeper investigation into how EFL pre-service teachers viewed the tool's contribution to writing development, yielding rich qualitative insights that enhanced the quantitative findings from the survey.

FINDINGS

Participants' Characteristics

To begin the data presentation, demographic characteristics of the participants is presented. Table 1 provides a detailed overview of the demographic distribution among the 143 English pre-service teachers involved in this study.

According to Table 1 below, the age distribution reveals that a significant majority of participants, 101 individuals or 70.62%, are in the 23–24 age range. Smaller groups fall into the younger categories: 2 participants (1.39%) are under 20 years old, 29 participants (20.27%) are aged 20–22, 7 participants (4.89%) range from 25 to 26, and 4 participants (2.79%) are over 26. In terms of gender, the sample consists of 60.13% females (86 participants) and 39.86% males (57 participants). When examining the duration of English language study, the largest cohort comprises those who have

been learning English for 3–4 years (52 participants, or 36.36%), followed by participants with 5–6 years of experience (41 participants, or 28.67%), those with less than 3 years of study (36 participants, or

25.17%), and finally, individuals with more than 6 years of experience (14 participants, or 9.79%). The length of studying English is determined only from their experiences at tertiary level of their education.

Table 1
Characteristics Data of the Participants

Demographic Category	Subcategory	Number of Participants
Age	< 20 years old	2 (1.39%)
	20 – 22 years old	29 (20.27%)
	23 – 24 years old	101 (70.62%)
	25 – 26 years old	7 (4.89%)
	> 26 years old	4 (2.79%)
Gender	Female	86 (60.13%)
	Male	57 (39.86%)
Length of Learning English	< 3 years	36 (25.17%)
	3 – 4 years	52 (36.36%)
	5 – 6 years	41 (28.67%)
	> 6 years	14 (9.79%)
Frequency of Using ChatGPT for Writing	< 1 hour a week	12 (8.39%)
	1-3 hours a week	43 (30.06%)
	3-6 hours a week	59 (41.25%)
	7-9 hours a week	21 (14.68%)
	> 9 hours a week	8 (5.59%)

According to Table 1, the age distribution reveals that a significant majority of participants, 101 individuals or 70.62%, are in the 23–24 age range. Smaller groups fall into the younger categories: 2 participants (1.39%) are under 20 years old, 29 participants (20.27%) are aged 20–22, 7 participants (4.89%) range from 25 to 26, and 4 participants (2.79%) are over 26. In terms of gender, the sample consists of 60.13% females (86 participants) and 39.86% males (57 participants). When examining the duration of English language study, the largest cohort comprises those who have been learning English for 3–4 years (52 participants, or 36.36%), followed by participants with 5–6 years of experience (41 participants, or 28.67%), those with less than 3 years of study (36 participants, or 25.17%), and finally, individuals with more than 6 years of experience (14 participants, or 9.79%). The length of studying English is determined only from their experiences at tertiary level of their education.

Regarding the use of ChatGPT for writing tasks, the majority of participants (59 individuals, or 41.25%) report using the tool for 3–6 hours per week. This is followed by those who spend 1–3 hours weekly (43 participants, or 30.06%), 7–9 hours weekly (21 participants, or 14.68%), less than 1 hour weekly (12 participants, or 8.39%), and over 9 hours weekly (8 participants, or 5.59%). This demographic data indicates that the participants are predominantly young adults in their early twenties, a typical characteristic of pre-service teacher groups. The higher proportion of females is in line with prevailing trends in education-related fields, i.e., English department in Indonesian EFL context (Razali, 2015). The varied lengths of English

learning experience suggest a diverse range of proficiency levels, which may impact the participants' familiarity with and attitude towards utilizing ChatGPT as a writing aid. Furthermore, the substantial frequency of ChatGPT usage—especially among those using it for 3–6 hours each week—highlights a notable reliance on this AI tool, leading to possibility of an increasing acceptance and integration of technology in their writing practices. These findings suggest the importance of examining how demographic factors such as age, learning experience, and technology usage patterns influence perceptions and acceptance of ChatGPT for academic purposes. This may have broader implications for the integration of AI tools in English language education.

EFL Pre-service Teachers' Acceptance of ChatGPT for Developing their Writing, and Factors influencing their Acceptance

The results of descriptive analysis shed light on the acceptance of ChatGPT as a writing assistant among EFL pre-service teachers (see Table 2). The findings reveal their acceptance regarding the tool's usefulness, ease of use, attitudes towards its integration, and their intentions to continue utilizing it. Each of these dimensions—Perceived Usefulness (PU), Perceived Ease of Use (PEU), Attitude Toward Use (ATU), and Behavioral Intention to Use (BIU)—provides a comprehensive view of how participants engage with ChatGPT. Mean scores, standard deviations, and ranges further illuminate both overarching trends and the variability in their responses.

Table 2
Descriptive Statistics

Construct / Item Questionnaire	Mean	Std. Deviation	Min.	Max.
Perceived Usefulness (PU)	3.39	0.55		
1. Using ChatGPT improves my writing ability.	3.53	0.58	3	4
2. Using ChatGPT increases my writing productivity.	3.21	0.54	2	4
3. I find ChatGPT to be useful to support my work in teaching and composing writing.	3.56	0.59	2	4
4. Using ChatGPT enhances my effectiveness on teaching and composing writing.	3.28	0.51	2	4
Perceived Ease of Use (PEU)	3.51	0.64		
1. Operating ChatGPT to assist me with writing is easy for me.	3.76	0.62	2	4
2. I find ChatGPT to be user-friendly to assist me with teaching and composing writing.	3.71	0.61	2	4
3. I believe that ChatGPT is easy to use for writing.	3.54	0.58	2	4
4. It is easy to become skillful at using ChatGPT to assist writing.	3.06	0.75	1	4
Attitude Toward Use (ATU)	3.53	0.59		
1. I like using ChatGPT for writing.	3.81	0.59	3	4
2. I feel good about using ChatGPT for writing.	3.26	0.75	1	4
3. I have a positive attitude toward using ChatGPT for writing.	3.54	0.54	2	4
4. I enjoy using ChatGPT for writing.	3.52	0.51	2	4
Behavioral Intention to Use (BIU)	2.57	0.65		
1. I intend to continue using ChatGPT for writing.	2.76	0.75	2	4
2. I plan to use ChatGPT in the future as my personal writing assistant.	2.65	0.75	1	4
3. I predict I will use ChatGPT frequently to support my writing.	2.45	0.56	1	3
4. I would like to use ChatGPT to assist me with writing more often.	2.42	0.56	1	3

Note: The calculation of mean score was derived from four-point Likert scale (3.51 - 4 'strongly agree'; 2.51 - 3.5 'agree'; 1.01 - 2.50 'disagree'; 0 - 1 'strongly disagree')

Starting with Perceived Usefulness (PU) as shown in Table 2, the mean scores for the four related items lie between 3.21 and 3.56, yielding an overall average of 3.39. On a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly Agree), a mean of 3.39 suggests that the teachers generally consider ChatGPT to be somewhat beneficial for enhancing their writing skills, productivity, and support in teaching tasks. However, the variability in responses (with standard deviations ranging from 0.51 to 0.59) indicates a spectrum of opinions; while some educators find it highly valuable, others are less convinced of its efficacy. This suggests that the perceived usefulness of ChatGPT might differ based on individual experiences and expectations, a topic worthy of further discussion.

In terms of Perceived Ease of Use (PEU), the mean scores are notably higher, fluctuating between 3.06 and 3.76, resulting in an overall average of 3.51. This indicates that most teachers consider ChatGPT to be relatively user-friendly, although the lowest score pertains to the skillfulness in its use (3.06). The moderate standard deviations, which range from 0.58 to 0.75, reflect varying levels of comfort among users when it comes to navigating the tool. This suggests that while ChatGPT is largely viewed as accessible, there remains a gap in user proficiency that may require additional training or experience.

When examining Attitude Toward Use (ATU), mean scores vary from 3.26 to 3.81, with an average

of 3.53. This reflects a broadly positive sentiment towards utilizing ChatGPT for writing, as most participants express enjoyment and a favorable view of incorporating it into their teaching and writing activities. However, the variability in responses (with standard deviations between 0.54 and 0.75) indicates that, despite a generally positive outlook, some participants experience reservations or less enthusiasm. This discrepancy might stem from individual preferences, varying experiences with technology, or previous exposure to similar tools.

Lastly, the Behavioral Intention to Use (BIU) construct presents a lower mean range of 2.42 to 2.76, averaging at 2.57. This implies that while teachers show some inclination to use ChatGPT in the future, their intentions are not as robust as their perceptions regarding its ease of use or usefulness. The relatively high standard deviations (ranging from 0.56 to 0.75) indicate significant variation in participants' willingness to continue engaging with the tool. This may suggest that while some educators are eager to integrate ChatGPT regularly, others may have concerns about its long-term relevance or require additional motivation to embed it in their routines.

In addition, the regression analysis results demonstrate factors influencing the pre-service teachers' acceptance on using ChatGPT to assist their writing. Table 3 depicts the results of regression analysis.

Table 3
Results of Regression Analysis

Construct	β (Standardized Coefficient)	Standard Error	t-value	p-value
Perceived usefulness (PU)	-0.039	0.011	-3.512	0.004
Perceived ease of use (PEU)	-0.068	0.019	-3.593	0.023
Attitude toward use (ATU)	-0.040	0.015	-2.423	0.031
Behavioral intention to use (BIU)	Intercept (constant)	-	-	0.0001

The regression analysis reveals that three constructs, Perceived Usefulness (PU), Perceived Ease of Use (PEU), and Attitude Toward Use (ATU), significantly influence the Behavioral Intention to Use (BIU) ChatGPT, based on the p -values below 0.05. Specifically, PU ($\beta = -0.039$, $p = 0.004$) was found to be a significant predictor of teachers' intention to use ChatGPT, suggesting that the perceived utility of ChatGPT in writing tasks influences their likelihood of continued use. Similarly, PEU ($\beta = -0.068$, $p = 0.023$) was another significant predictor, emphasizing the role of ease of use in fostering behavioral intention. ATU ($\beta = -0.040$, $p = 0.031$) also emerged as a significant predictor, indicating that a positive attitude towards using ChatGPT contributes to the intention to incorporate it into future writing practices. The intercept value was also significant ($p = 0.0001$), indicating a baseline level of behavioral intention to use ChatGPT even in the absence of the other predictors.

These findings suggest that factors such as perceived usefulness, ease of use, and overall attitude are critical to understanding teachers' future intentions to adopt and integrate ChatGPT into their writing practices. However, it's important to note that despite the significant influence of these constructs, the overall strength of these predictors (as indicated by the coefficients) suggests the need for further exploration of other factors that may also play a role in shaping teachers' behavioral intentions.

To sum up the quantitative findings, EFL pre-service teachers generally hold a positive acceptance, yet mixed, view of ChatGPT as a writing aid. Most participants recognize the tool's usefulness and find it relatively easy to use, showing an overall positive attitude towards it. However, their willingness to utilize ChatGPT in the future is not as strong. The varied responses highlight a divide among teachers; while some express enthusiasm for its potential, others remain uncertain or skeptical about its long-term role in their teaching practices. Overall, the data indicates that there is potential for ChatGPT as an effective writing tool, but fostering greater acceptance and consistent use among these educators may require additional encouragement, training, and hands-on experience. Regression analysis further revealed that perceived usefulness, perceived ease of use, and attitude toward use significantly predict behavioral intention

to use ChatGPT, highlighting the crucial role of positive perceptions and user experience in shaping future adoption.

EFL Pre-service Teachers' Perspectives toward the Potential of ChatGPT for Developing their Writing

Given the quantitative findings in the previous section, the qualitative data gathered from the semi-structured interviews offers rich insights into EFL pre-service teachers' perspectives toward ChatGPT. While the quantitative analysis revealed predominantly positive views on ChatGPT's usefulness, ease of use, and overall attitudes, the qualitative responses unveil a more complex picture of the participants' experiences and opinions. Some participants shared a mix of enthusiasm and hesitance about the tool, particularly concerning their future intentions to utilize it. Table 4 demonstrate the summary of qualitative findings in this study.

The quantitative results indicated a favorable perception of ChatGPT's utilization for writing, achieving an average score of 3.39 out of 4. This finding is consistent with qualitative insights, where participants generally recognized the advantages of utilizing ChatGPT to enhance their writing skills and productivity. Many participants noted that ChatGPT proved beneficial in generating ideas, refining language, and alleviating writer's block. P1 remarked, "ChatGPT helps me come up with ideas when I'm stuck in my writing," while P4 highlighted its effectiveness for brainstorming and offering quick suggestions to improve sentence structure. Similarly, P7 stated, "I feel like it enhances my writing. It provides suggestions I might not have considered on my own." The majority of participants also expressed that ChatGPT could assist with their teaching, with P8 commenting, "I can use ChatGPT to clarify concepts for my students and provide relatable examples." Nonetheless, while most participants recognized the tool's usefulness, some pointed out that its effectiveness varies depending on the writing context. P11 observed, "It is very helpful, but I think it shines best with certain types of writing, like academic papers or essays. I'm uncertain about its utility for more creative tasks." This feedback emphasizes the mixed perceptions regarding ChatGPT's versatility and effectiveness across different writing scenarios.

Table 4

Summary of Findings Regarding Participants' Perspectives Toward the Potential of ChatGPT to Assist Their Writing

Participant	Themes	Quotes made by participants
P ₁	Usefulness of ChatGPT	"ChatGPT helps me come up with ideas when I'm stuck in my writing."
P ₄	Usefulness of ChatGPT	"ChatGPT is effective for brainstorming and offering quick suggestions to improve sentence structure."
P ₇	Usefulness of ChatGPT	"I feel like it [ChatGPT] enhances my writing. It provides suggestions I might not have considered on my own."
P ₈	Teaching assistance	"I can use ChatGPT to clarify concepts for my students and provide relatable examples."
P ₁₁	Contextual limitations	"It [ChatGPT] is very helpful, but I think it shines best with certain types of writing, like academic papers or essays."
P ₂	Ease of use	"It's very simple to use. I just type my question or request, and ChatGPT provides an answer right away."
P ₆	Ease of use	"The interface is clean and easy to understand. I didn't have to spend much time figuring out how it [ChatGPT] works."
P ₃	Ease of use	"I'm not very good with technology, but even I could figure out how to use it [ChatGPT]. It's really user-friendly."
P ₁₀	Need for training	"It [ChatGPT] is easy to use, but I feel there's so much more I could do with it if I had more experience."
P ₅	Positive attitude	"I like using ChatGPT because it saves me time. It helps me get things done faster and more efficiently."
P ₉	Positive attitude	"It [ChatGPT] is a nice tool to have. It feels like I have an assistant helping me with my writing."
P ₁₂	Positive attitude	"I enjoy using it [ChatGPT]. It makes writing less stressful because I don't feel like I'm doing everything from scratch."
P ₄	Concerns on accuracy	"I like it [ChatGPT], but I'm not sure if it's always accurate. Sometimes the suggestions are good, but sometimes they're not very helpful."
P ₂	Reluctance to rely on ChatGPT	"I think ChatGPT is helpful, but I wouldn't rely on it too much for my writing. I still prefer to write on my own."
P ₆	Reluctance to rely on ChatGPT	"It [ChatGPT] is great as a tool, but I wouldn't want to become too dependent on it. It's important to develop my own writing skills."
P ₈	Reluctance to rely on ChatGPT	"I think I need more time to get used to it. Right now, it's something I use occasionally, but I wouldn't say I'll use it all the time."
P ₁₁	Need for training and confidence	"I feel like I could use it [ChatGPT] more if I had more training on how to use it effectively. Right now, I don't feel confident enough to rely on it for everything."

The quantitative data revealed that most participants found ChatGPT easy to use, with an average rating of 3.51 out of 4. This conclusion is reinforced by qualitative responses, in which many participants described the tool as intuitive and user-friendly. They praised the straightforward interface and noted that they encountered minimal difficulties while navigating the platform. P₂ remarked, *"It's very simple to use. I just type my question or request, and ChatGPT provides an answer right away—there's no complicated setup involved."* Likewise, P₆ highlighted, *"The interface is clean and easy to understand. I didn't have to spend much time figuring out how it works."* Similarly, P₃ pointed out that even those with limited technical skills could easily use ChatGPT, *"I'm not very good with technology, but even I could figure out how to use it. It's really user-friendly."* While the overall feedback was largely positive, a few participants indicated a desire for additional training to fully harness the tool's potential. For instance, P₁₀ expressed, *"It's easy to use, but I feel there's so much more I could do with it if I had more experience. I believe training would help me become more skilled in using it."* This statement reflects an

understanding that, although ChatGPT is user-friendly, greater mastery is attainable with further experience.

The mean score for Attitude Toward Use (ATU) was 3.53/4, indicating that participants generally had a positive attitude towards using ChatGPT for writing. Most participants expressed a liking for the tool and felt good about incorporating it into their writing processes. P₅ commented, *"I like using ChatGPT because it saves me time. It helps me get things done faster and more efficiently."* P₉ shared, *"It's a nice tool to have. It feels like I have an assistant helping me with my writing."* This positive attitude was also echoed by P₁₂, who said, *"I enjoy using it. It makes writing less stressful because I don't feel like I'm doing everything from scratch."* While the majority of participants were positive, a few did express some reservations. P₄ mentioned, *"I like it, but I'm not sure if it's always accurate. Sometimes the suggestions are good, but sometimes they're not very helpful."* This shows that while the general attitude is positive, some participants had concerns about the quality and reliability of ChatGPT's output.

Last but not least, the quantitative data revealed a striking trend, participants expressed a relatively low intention to continue using ChatGPT. Specific statements like, “I predict I will use ChatGPT frequently to support my writing,” and “I would like to use ChatGPT to assist me with writing more often,” received notable disagreement from many participants. Although the majority acknowledged the tool's utility and user-friendliness, their desire to incorporate it into their writing routines was less enthusiastic. P2 shared a pivotal perspective, stating, *“I think ChatGPT is helpful, but I wouldn't rely on it too much for my writing. I still prefer to write on my own. It's just not the same as articulating my own thoughts and ideas.”* Echoing this sentiment, P6 remarked, *“It's great as a tool, but I wouldn't want to become too dependent on it. It's important to develop my own writing skills.”* Additionally, P8 commented, *“I think I need more time to get used to it. Right now, it's something I use occasionally, but I wouldn't say I'll use it all the time.”* A significant underlying factor contributing to this hesitancy about regularly using ChatGPT appeared to be a perceived lack of training and experience. P11 noted, *“I feel like I could use it more if I had more training on how to use it effectively. Right now, I don't feel confident enough to rely on it for everything.”* This observation indicates that while ChatGPT is generally viewed positively, participants sense a need for increased exposure and guidance to feel comfortable using it more frequently.

To conclude the qualitative findings, EFL pre-service teachers generally view ChatGPT as a useful and user-friendly tool. They maintain a positive attitude towards it, acknowledging its potential to enhance their writing. However, despite these favorable perceptions, their intention to utilize ChatGPT on a regular basis remains somewhat limited. Many participants voiced a hesitance to depend too heavily on artificial intelligence, emphasizing the importance of honing their own writing skills and expressing a need for further training to effectively incorporate ChatGPT into their writing practices. The findings highlight the necessity for ongoing engagement and training, which could help participants navigate their reservations and fully leverage ChatGPT's capabilities as a writing assistant.

DISCUSSION

The results on Perceived Usefulness (PU) indicate that EFL pre-service teachers largely accept ChatGPT as a valuable resource. This suggests that, overall, the participants find the tool effective in enhancing their writing skills and productivity. The finding aligns with previous research, such as Khalifa and Albadawy (2024), which demonstrates that AI tools can improve academic writing through

suggestions for enhancement, grammar checks, and idea generation. Further study by Al-Sofi (2024) also confirm that AI tools play a significant role in alleviating cognitive load for writers by automating certain aspects of the writing process. However, some EFL pre-service teachers expressed concerns about ChatGPT's capacity to assist with more complex or creative writing tasks. This observation echoes the work of Pereira et al. (2024), who pointed out that AI tools are generally helpful for routine tasks but may fall short in creative writing that demand critical and complex assignments. Thus, while ChatGPT proves useful for certain academic applications, its effectiveness in more creative or context-specific writing could be limited.

In terms of Perceived Ease of Use (PEU), participants rated ChatGPT highly, indicating ease of navigation and usability. This finding supports Davis's (1989) Technology Acceptance Model, which emphasizes that user-friendliness is a crucial factor in adopting new technologies. Liu and Ma (2024) further found that straightforward, user-friendly interfaces significantly enhance technology acceptance. The EFL pre-service teachers praised ChatGPT's intuitive design, which enabled them to incorporate it into their writing with little technical expertise. This finding aligns with the work of Belda-Medina and Kokošková (2024), who pointed out the importance of ease of use for educators adopting new technologies. However, some EFL pre-service teachers noted that while the interface is accessible, additional advanced training could enhance their effectiveness in using the tool. This statement reflects the findings of Dehghani and Mashhadi (2024), who argued that user-friendly technologies still require further professional development to fully realize their potential in educational contexts.

Overall, participants displayed a positive Attitude Toward Use (ATU) of ChatGPT. Many valued the tool for its potential to lighten their workload and assist in writing tasks. This favorable attitude is supported by Cai et al. (2024), who found that educators often display positive perceptions of AI tools that streamline their responsibilities. Similarly, Huang and Mizumoto (2024) noted that teachers are more likely to welcome AI tools when they perceive them as enhancing the learning experience. Despite this general positivity, some EFL pre-service teachers raised concerns regarding ChatGPT's reliability and accuracy, reflecting Nugroho et al.'s (2024) findings that educators remain cautious about AI despite their overall acceptance. These apprehensions highlight the necessity for ongoing enhancements to the tool's reliability before it can be fully trusted in educational environments.

It is a surprising finding that the scores for Behavioral Intention to Use (BIU) were low. This indicates that while participants recognized the

potential benefits of ChatGPT for writing, there was a hesitance to incorporate it as a regular part of their teaching practices. This hesitation mirrors the findings of Niloy et al. (2024), who noted that teachers often acknowledge the advantages of AI but lag in fully adopting these tools in their classrooms. In this study, the reluctance appears to arise from worries about becoming overly reliant on technology and the possible decline of critical thinking skills. Kohnke (2023) support this view, arguing that heavy reliance on AI can undermine individuals' independence and creativity. Additionally, EFL pre-service teachers expressed a need for more experience and training before they felt comfortable fully utilizing ChatGPT. This finding aligns with concerns highlighted by Ali et al. (2023), who emphasized the importance of professional development in equipping educators to effectively integrate AI tools into their teaching.

These findings offer significant insights for both the theoretical advancement and practical application of AI technologies in English language instruction. From a theoretical perspective, the results reinforce the Technology Acceptance Model (TAM), which posits that perceived usefulness and ease of use are pivotal factors influencing technology adoption (Davis, 1989). Nevertheless, the participants' hesitation to consistently utilize ChatGPT underscores the urgent need to further investigate the ethical considerations associated with AI integration in education. Although teachers appreciate the tool's efficiency, concerns persist regarding its potential to diminish human roles in creative and evaluative tasks. On a practical level, the findings suggest that while AI tools such as ChatGPT can effectively support writing activities, they should complement rather than replace the vital human elements inherent in teaching. Therefore, it is imperative to provide educators with professional development opportunities that address both the technical competencies and the ethical, pedagogical implications of AI use. By doing so, AI technologies can be more effectively and responsibly integrated into educational settings, enhancing support for both teachers and learners while safeguarding the essential human dimensions of education.

CONCLUSION

This study explored EFL pre-service teachers' acceptance of ChatGPT as a writing support tool, centering on key constructs such as perceived usefulness, perceived ease of use, attitudes toward the technology, and behavioral intention to utilize it. The results revealed that most participants regarded ChatGPT as both beneficial and accessible, reflected in the high ratings for perceived usefulness (PU) and perceived ease of use (PEU). The teachers generally demonstrated a favorable attitude toward adopting ChatGPT, recognizing its potential to reduce

workload and improve writing efficiency. Nevertheless, despite these positive perceptions, participants exhibited a lower-than-expected intention to use the tool consistently, citing apprehensions about over-reliance on AI and the need for additional training and experience. These findings contribute to the broader understanding of AI integration in educational contexts, particularly within language education, emphasizing that while AI tools like ChatGPT offer clear practical advantages, comprehensive support is crucial for their full adoption into pedagogical practices.

Several limitations of this research must be acknowledged. First, the study relied on self-reported data, which may be susceptible to social desirability bias. To address this limitation, future investigations could incorporate objective measures, such as direct classroom observations or longitudinal approaches, to better assess ChatGPT's real-world impact on writing instruction. Second, the current research concentrated primarily on pre-service teachers; thus, future studies should broaden the scope to include in-service teachers, educational administrators, policymakers, and students, offering a more holistic understanding of ChatGPT's role in writing education. Practical implications for future research include examining the ethical dimensions of AI use in educational settings, particularly in preserving critical thinking and creativity, and developing targeted professional development initiatives to facilitate the responsible and effective integration of AI tools like ChatGPT into language teaching and learning.

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