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Exploring AI-based Collaborative Reflective Practice in Light of ChatGPT: Insights from EFL Preservice Teachers

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ABSTRACT

Few studies have explored how English-as-a-foreign-language (EFL) preservice teachers can do collaborative reflective practice (CRP) to enhance their knowledge and skills, using artificial intelligence (AI) tools. The main purpose of this study, adopting a basic interpretive qualitative design, is to investigate how CRP can be implemented with ChatGPT to develop preservice EFL teachers professionally. After selecting the participants through a purposive sampling procedure and exploring the perspectives of eight preservice EFL teachers and two teacher educators through narratives, interviews, observations, and group discussions, the data were analyzed through thematic analysis. The results of data analysis showed that employing CRP implemented in ChatGPT has the potential to provide several benefits, including the ability to contemplate new experiences, connect theory and practice, acquire knowledge and expertise, become critical and autonomous, embrace challenges and opportunities, improve professionally, socially, and emotionally, regulate emotions and thoughts, and foster creativity. Furthermore, the use of ChatGPT in CRP can function as a virtual mentor and collaborator to engage with preservice teachers, find problems and resolve issues, and enhance professional growth. The findings of the present study may carry implications for teacher educators and policy makers to enhance social and reflective practices as they integrate AI into teacher education programs to enhance preservice teachers' cognitive and social functioning.

KEYWORDS: Artificial intelligence; ChatGPT; Collaborative reflective practice; Pre-service teachers; Teacher education

1. Introduction

Previously, teacher education programs focused on disseminating abstract knowledge, theories, and methods through explanations and descriptions within a top-down approach (Sweeting & Carey, 2025). More recently, bottom-up teacher education programs concentrate on student teachers' inquiry-based, active, independent, technology-oriented, and collective learning (Ahn & Kwon, 2025; Farrell, 2015). Through this mode of teacher education, pre-service EFL teachers can learn how to improve their knowledge, skills, and practices continuously via reflections and collaborations actively when they become novice teachers. Therefore, reflective practice (Gudeta, 2022) can help preservice EFL teachers observe and monitor their practices systematically, learn from doing practically, foster their awareness theoretically, notice their gaps carefully, plan for actions and implementation wisely, and have greater agency personally. Accordingly, they become able to make wise decisions, transform their practices and beliefs, personalize their theories and theorize their practice, regulate their thoughts and emotions, and enhance their creativity (Farrell, 2022; Ghamoushi, 2025; Mann & Walsh, 2017; Meanwell & Kleiner, 2014). Moreover, teacher educators can encourage preservice EFL teachers to do reflective practice with other peers and colleagues collectively and collaboratively to learn how to receive constructive

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feedback from others, possess rich scaffolding and social support, and have more cultural and social understanding by the means of CRP (Alvarado Gutierrez et al., 2019).

CRP, conceptualized as a platform for planning, acting, observing, and reflecting collaboratively (Cole et al., 2018), can be adopted to provide foundation for integrating collaboration and interaction with individual reflective practices in a team- or peer-based professional development. Therefore, CRP can enhance reflective practices in a friendly and supportive communities of practice by observing and sharing practices, recognizing problems and finding solutions with others, boosting interactions and cooperation, and negotiating meanings, modifications, and adaptations (Cirocki & Farrell, 2017). In addition, preservice EFL teachers develop their teaching quality and experiential learning (Savoca, 2021), form a new belief system and enhance criticality (Zeichner & Liu, 2010), improve their situated and contextual understanding, and follow socio-cultural theory through CRP (Daniel et al., 2013; Modarresi & Alavi, 2014; Vygotsky, 1978). Most recently, AI tools have been regarded as a novel way of approaching and supporting education in general and teacher education in particular (Celik, 2023; Lameras & Arnab, 2021; Salas-Pilco et al., 2022). AI can include various modes of technologies for instructional purposes, such as using chabots, automated grading systems, and intelligent tutoring system (Lin et al., 2023).

For teachers, ChatGPT can be implemented as an "interlocutor, content provider, teaching assistant, and evaluator" (Jeon & Lee, 2023, p.9), leading to professional development enhancement. Likewise, ChatGPT can plan preservice EFL teachers' learning and provide them with the intended content (Kasneci et al., 2023), offer constructive feedback and practical guidance (Koedinger et al., 2012), and support their collaborative and personalized learning experiences. Furthermore, it lowers their workload by generating tasks, assessment, and lesson plans (Javaid et al., 2023), and makes a portfolio for checking their progress. Additionally, using automated scoring for their formative and summative assessment (Yuan et al., 2020), monitoring to enhance their learning and teaching quality (Celik et al., 2023), and teaching them how to use AI when they become novice teachers are other benefits.

However, ChatGPT may have drawbacks during teacher education, namely, limited social practice, analytical and reflective thinking, unethical practices, over-reliance on AI, and lack of creativity and originality (Jeon & Lee, 2023; Kasneci et al., 2023; Kohnke et al., 2023; Zeng et al., 2024). Since AI literacy is considered a crucial technological literacy that has to be developed for students and teachers at schools, preservice EFL teachers can learn how to use it in the future by implementing it with other peers and colleagues during their teacher education programs. Although AI has previously been found to be an effective tool for teachers' professional development (Kim, 2023), studies investigating how preservice EFL teachers can do CRPs with AI to enhance their knowledge and skills are very scarce, and more research studies are needed to examine AI-based CRP among preservice teachers to help better understand how it contributes to teachers' professional development. Hence, CRP can be utilized with ChatGPT to see how EFL preservice teachers can be developed and improved with this new practical technological innovation.

2. Literature review

2.1. Preservice teachers' collaborative reflective practices

Teacher education can be improved through authentic, experiential, and practical instructional experiences. It is important to involve preservice EFL teachers in reflective and collaborative practices to learn from their real instructional practices. These reflective and collaborative activities function as critical opportunities for them to strengthen their knowledge of teaching content, obtain effective experience, and reform educational practices. By nurturing reflective and collective professional development and supporting contextualized understanding, preservice teachers will be better prepared to fulfill the developing needs of their students (Borko, 2004; Guskey, 2002). As stated previously, "a reflective approach to language teaching is one in which teachers collect data about their teaching, examine their attitudes, beliefs, assumptions and teaching practices, and use the information obtained as a basis for critical reflection about their teaching" (Richards & Lockhard, 1994, p. 15). Hence, as a systematic and rigorous mode of thinking, reflective practice can help preservice teachers to enhance their awareness and intellectual development (Rodgers, 2002).

Moreover, they can experience a meaning-making process by reflecting on practices, thinking analytically, connecting theory and practice, and learning in a community of practice with peers and colleagues. In this case, reflective practice can indicate preservice EFL teachers how to move from intuitive and impulsive decision-making to a more systematic and sound approach in their actions and interpretations when they become a novice teacher at school (Farrell, 2012). Preservice EFL teachers need to be familiar with reflective practice to monitor their learning and teaching practices and evaluate their teaching to develop professionally. Consequently, they acquire skills to notice their strengths and problems, possess a deeper thinking style, question and modify their thoughts and actions appropriately, reach greater self-awareness, and generate novel solutions (Kim & Lee, 2002). These benefits of reflective practice can enhance the pre-service EFL teachers' understanding of professional development during their teaching practices in the future.

Reflective practice is an intellectual learning process that can be complemented by "a set of attitudes in which teachers systematically collect data about their practice, and while engaging in dialogue with others, using the data to make informed decisions about their practice both inside and outside the classroom" (Farrell, 2015, p.123). To prevent individualistic and isolated reflection, pre-service teachers can develop their reflective professional development through collaboration, leading to more collegial scaffolding and feedback, collective inquiry, maximized learning potential in a community, and mutual negotiation of thoughts and practices (Putman et al., 2025). Preservice EFL teachers need to practice working with other peers and colleagues to co-construct their knowledge and awareness and share their thoughts to discover solutions in a supportive and safe environment (Ahn & Kwon, 2025; Aşık & Gönen, 2016). In this way, CRP, "a more dialogic, data-led and collaborative approach to reflective

practice" (Mann & Walsh, 2013, p. 291), is implemented to involve pre-service EFL teachers to discuss and share ideas, experience, and theories in a collaborative learning environment to expand their knowledge and transform their practice.

CRP integrates collaboration and interaction with individual reflective practices in a team- or peer-based professional development. Supported by socio-constructivism (collaborative learning) and self-regulated learning (reflective learning) (Butler & Cartier, 2004), preservice EFL teachers can work with their colleagues to actively reflect socially on their practice, examine and discover teaching collectively, gain scaffolding and feedback in a team, complete collaborative projects, and observe, question, and change principles and practice collaboratively (Mitchell & Sackney, 2011). Thus, pre-service teachers experience a peer coaching and team teaching approach with which they can build collegiality by working with others socially and reflectively (Richards & Farrell, 2005). Several scholars have proposed that the effectiveness of collaborative reflection in fostering reflection among preservice teachers relies on two key factors: the guidance provided by knowledgeable individuals, such as teacher educators and peers, and the social organization of the collaboration, namely, team teaching or observation (Ghamoushi, 2025; Moore-Russo & Wilsey, 2014). However, as CRP is a time-consuming, dynamic, and challenging process and needs interaction among individuals, preservice teachers may find it hard to approach teacher educators and peers to collaborate with. Also, as Vangrieken et al. (2015) noted, teachers may encounter a wide range of challenges and issues when it comes to collaboration. These include social competitiveness, personal conflicts, limited autonomy, growing tensions, excessive workloads, and the need to conform. Hence, AI-based ChatGPT can act as a knowledgeable source for their collective inquiry during CRPs with an AI tool that can be collaborative, approachable, reliable, supportive, and enriched. ChatGPT can support pre-service teachers spontaneously, provide feedback, examine performance, improve knowledge and skill, and modify teaching beliefs and practice (Pan et al., 2025). Therefore, this study aims at exploring how preservice EFL teachers experience using AI-based ChatGPT to conduct CRP to improve more practically and actively through an AI system during language teacher education program.

2.2. Artificial intelligence in teacher education

In today's rapidly changing world, where information, knowledge, and skills are constantly being updated, educators require effective tools to assist them in their teaching endeavors to enhance the quality of education. Given this context, AI has emerged as a promising remedy for teachers to update their knowledge and practice, tackle their obstacles, and amplify their productivity (Luan et al., 2020). One recently-used AI tool that has received consideration is ChatGPT, created by OpenAI, to enable the production of written content by utilizing user prompts and generating intelligent and relevant answers to user queries (Moorhouse, 2023). Hence, ChatGPT, as a new technological innovation, is capable of reforming and transforming teacher education by engaging preservice teachers in an AI-based environment to receive immediate feedback on their first teaching practices, make personalized learning and assistance available for their self-directed learning practices, meet the needs and interests of each pre-service teacher's individualized learning style, and clarify key and abstract concepts for them during reading (Kuleto et al., 2021).

ChatGPT, therefore, has the ability to function as a virtual tutor, providing additional educational assistance outside of the traditional classroom-oriented teacher education. During preservice teachers' practicum and when they become novice teachers, ChatGPT has the capability to support curriculum and material development through the provision of pertinent content, propose effective teaching approaches and authentic tasks, and facilitate lesson planning (Baidoo-Anu & Owusu Ansah, 2023). Furthermore, it empowers teachers to identify motivating and appropriate content, therby supporting their instructional and subject-matter knowledge. Dwivedi et al. (2023), for instance, confirmed that ChatGPT can facilitate the process of grading, recognize errors and gaps, and design plans. In addition, it can provide pre-service teachers with continuous professional development practices, promoting a culture of ongoing enhancement.

The use of ChatGPT serves many other benefits in teacher education as well. ChatGPT, for instance, can help with managing administrative responsibilities that can be messy for preservice teachers, such as arranging schedules, handling administrative queries, and facilitating communication with parents (Bridgeman & Shipman, 2022). This empowers preservice teachers to dedicate more time to instructional activities. Accordingly, Kuhail et al. (2022) found that ChatGPT can serve as teaching agents, peer agents, and motivational agents. This intelligent system can offer personalized and interactive experiences for preservice teachers during teacher education (Li et al., 2019), fostering a human-centered and personalized instructional approach. In this case, ChatGPT can function as a conversational agent by simulating a human-like and real-world interaction (Zeng et al., 2024). Given a customized learning experience, ChatGPT facilitates personalized learning, catering to individual learning styles, pace, motivation, and engagement. They encompass a wide range of meaningful and purposeful activities, effective classroom management techniques, and procedural guidelines to teach initially, which can enhance the quality of teacher education (Ali et al., 2023; Rahman & Watanobe, 2023).

Although ChatGPT has offered several advantages, it may negatively affect preservice teachers' practices. According to Halleem et al. (2022), the establishment of strong relationships between preservice teachers and their peers and teacher educators is crucial for professional teacher education. However, an excessive dependence on AI without a critical and creative view could diminish the human-oriented interactions and mentorship that teacher educators provide, potentially affecting pre-service teachers' creative, emotional, and social development (Morron, 2023). Furthermore, preservice teachers and teacher educators may require additional training to effectively integrate AI into their teaching methods, since the rapid advancement of technology can create skill gaps and make it challenging for them (Luckin & Holmes, 2016). It is perceived that preservice EFL teachers can implement CRP with ChatGPT to have social interactions, reflect on and examine their teaching practices, acquire and expand their practical knowledge, receive help and scaffolding, possess a continued cooperative work in the ongoing professional development process, and help whenever they need. The current study probes into the following research questions to achieve the goals of the study:

1. How can pre-service EFL teachers implement CRP by the means of ChatGPT to develop professionally?
2. What are the benefits and challenges of doing CRP with ChatGPT for preservice EFL teachers?

3. Methodology

3.1. Research design

In the current qualitative study, preservice EFL teachers and teacher educators were explored to see how they perceive the use of AI to do CRP during their teacher education programs and explore the benefits and challenges of conducting CRP with ChatGPT. The present study followed an interpretive qualitative design to rich and contextualize data from the participants (Ary et al., 2019). An interpretive investigation is used to obtain detailed explanations aimed at comprehending and describing a phenomenon (AI-based CRP during teacher education) by utilizing data through various methods, including interviews, narratives, observations, and group discussions. In this basic interpretive study, the phenomenon (AI-based CRP with ChatGPT) and its processes were described to show novel ideas, practices, perceptions, and experiences (Creswell & Poth, 2016).

3.2. Participants and setting

To conduct an interpretive qualitative study, eight pre-service EFL teachers and two teacher educators were selected purposefully from a public teacher education university in Iran. The university encompasses a vigorous English department, providing bachelor of arts, master, and PhD degrees in language teaching. This internationally renowned university, recognized for its interdisciplinary approach, places excessive prominence on integrating technology into educational practices. It has a strong language and computer laboratory, a free access to fast-speed internet connection, online free courses and programs for the students and faculties, established synchronous and asynchronous online learning platforms, and a keen interest on using technology and AI for educational procedures. Moreover, it offers a variety of courses, including computer-assisted language learning, digital literacy, online assessment and e-learning, and other technology-oriented learning programs. Therefore, the university was open to AI-based practices to enhance teacher education programs.

Pre-service EFL teachers were on the first (60%) and second year (40%) of their Bachelor of arts in teaching English as a foreign language (TEFL) program. The participants were selected purposively, and the sample includes subjects who are regarded as representative of the population, utilizing a nonprobability sampling technique (Obilor, 2023). The researchers had a short interview with pre-service teachers for 15 minutes and asked some relevant questions to select those who were engaged in teaching at public and private schools and language institutes, had a decent level of computer literacy and technological devices, and became motivated to take part in research that requires time and effort were. Eight Iranian pre-service EFL teachers (females = 3; males = 5; Mean age = 22; SD = 3.75) were selected for the study. They were aged between 19 and 26, with 1 to 2 years of teaching experience.

The selection of eight preservice EFL teachers was motivated, following the data saturation, a crucial criterion in qualitative research. Data saturation occurs when no new themes or understandings appear from the data, and new participants add no new information to represent enough depth and breadth to solve the research questions (Braun & Clarke, 2021). In the present study, data were started through collecting from eight teachers, and the ninth teacher provided no new information. Moreover, two teacher educators were selected as they had a strong research and teaching background in teaching with computer and AI within a teacher education context. Both were male and hold PhD in applied linguistics. Also, they were an assistant professor and a lecturer, with five to 10 years of teaching experience, and they have taught in different language institutes, schools, and universities.

3.3. Instruments

In this study, the researchers used four major instruments to collect data as shown and briefly explained in Table 1. We used four different instruments to triangulate by instrumentation to help collect various data types for thick description and validity purposes, as suggested by Serafini et al. (2015). More detailed information regarding these instruments is presented in the following section.

Table 1. Instruments used for the collection of data in the present study

Narratives	Preservice teachers wrote three narratives (each around 1,000 words) about their experiences with CRP and ChatGPT.
Nonparticipant observations	Teacher educators observed preservice teachers' classes and wrote recorded their observations about preservice teachers' development.
Group discussions	Audio recordings and field notes were taken during weekly group discussions.
Unstructured interviews	Open-ended interviews were conducted with preservice teachers and teacher educators, and were audio-recorded for transcription.

3.4. Data collection procedure

After selecting pre-service EFL teachers and teacher educators purposively, the first researcher conducted three one-hour workshops about CRP and AI-based ChatGPT for teacher educators and pre-service teachers. During the first session, the researcher discussed the definitions, models, and procedures of doing CRP, such as how to plan, act, observe, and reflect collectively. For the second session, the participants were informed about the significance of AI and ChatGPT to improve the quality of their teacher education programs by reflecting and collaborating with ChatGPT. Last but not least, a question-and-answer part took place for an hour to address any queries related to procedures and models of CRP and ChatGPT (e.g., Do you have any concerns or issues regarding the implementation of CRP?, Do you need more information about the procedures?). Consequently, the participants were instructed to utilize and apply ChatGPT while encouraging pre-service EFL teachers to engage in CRPs. The participants were expected to conduct CRP via ChatGPT with the help of their teacher educators for three months.

During the study, preservice teachers had to conduct CRP with ChatGPT for reflecting on their teaching practices, identify problems and find solutions, design tasks and activities, prepare the lesson plans, find useful resources, receive feedback, and reform knowledge and practice. The first researcher was approachable to provide continuous support, recommendation, and feedback during their CRP. To gather data, they were encouraged to write three ***narratives*** in English (each should be around 1,000 words) to indicate how they could develop their teaching skills, knowledge, and attitudes through conducting CRP with ChatGPT. They had to write about the process, procedure, and experience of implementing CRP with ChatGPT for enhancing their teaching practice. All pre-service teachers completed the three narratives, except one who was busy and provided only one narrative. The researcher gathered their narratives at the end of the study. Besides, teacher educators had to ***observe*** student teachers' classes for three separate sessions: once at the beginning, once in the middle, and once at the conclusion of their teaching period. This was done to assess how student teachers could develop their knowledge, skill, and practice by doing CRP with ChatGPT. Their observation was unstructured without having a framework to understand their improvement holistically. Teacher educators had to write a narrative to show how student teachers have developed, what positive changes felt, and what the benefits and challenges were. The narratives were gathered at the end of the study.

They had ***group discussions*** to receive guidance, support, knowledge, and feedback from their teacher educators personally and virtually through social media applications and interact with other peers. At the end of each week, they had a meeting for an hour and half to talk about their AI-based CRP practices, perceptions, experiences, and processes with peers and teacher educator in a group to know others' experience, learn from them, possess scaffolding, have a mutual interaction, and develop collectively. The teacher educators and the lead researcher moderated and facilitated the process of group discussions. Hence, the lead researcher observed their group discussion practices without active participation. The researcher collected the data through field notes and audio recordings. In addition, the teacher educators and pre-service teachers were interviewed for 45 minutes through an ***unstructured interview*** with some open-ended questions related to the role of ChatGPT in CRP.

To make sure of the content validity of the interview questions, they were reviewed by one expert in applied linguistics familiar with conducting interviews, pilot-tested with some participants, and refined based on feedback received from them. Moreover, data triangulation with narratives, observations, and group discussions further supported the credibility of the findings. Therefore, the questions could be modified during the interview to know how CRP could be developed though ChatGPT, the benefits and disadvantages, and the opportunities and challenges of this mode of AI-based teacher education. During the interviews, teacher educators share their perceptions of how pre-service teachers could develop professionally through this model. All interviews were audio recorded for further transcription and analysis.

3.5. Data analysis

The collected data included narratives, audio recordings, and field notes gained from interviews, narratives, observations, and group discussions. These materials were transcribed by the researchers to enhance analysis and thematic categorization to answer both research questions. Inductive thematic analysis (Braun & Clarke, 2006) was used to reach themes organically from the rich, varied data, producing a flexible, data-driven, and rigorous investigation of participants' perceptions and experiences. The researchers accurately reviewed the data multiple times to recognize key concepts, meanings, and ideas, which were then coded. Extracts were systematically categorized, with sub-categories grouped under overarching themes.

To guarantee the robustness of the coding process, inter-rater reliability was calculated. As Krippendorff (2004) highlights, inter-coder reliability necessitates that two raters assign the same code to the same unit of text. In this study, the first researcher coded all the data, and a Ph.D. holder in applied linguistics was invited to independently analyze a 25% of data, as is common in qualitative studies (e.g., O'Connor & Joffe 2020) and the inter-rater reliability score was computed to assess the consistency of coding. The results of inter-coder reliability, using Cronbach's alpha, was .91, showing a relatively high consistency between the two coders. Following Modarresi (2025), in cases of disagreement between the two coders, a third coder was invited. The process of coding was repeated to resolve discrepancies through negation and discussion until full agreement was reached. We also used rechecking transcripts, refining codes, and validating categorizations, as suggested by Ary et al. (2019), to increase the reliability and validity of the findings.

4. Results

In this part, we present the results of the study. For clarity of organization of the findings, we state them research question by question. For each research question, the major themes are presented, followed by subthemes and relevant extracts from the data collected from the instruments discussed in the previous section. The source of quotations is identified as follows: observation (O), group discussion (GD), interviews (I), and narratives (N).

4.1. Investigation of the first research question: How can preservice EFL teachers implement CRP by the means of ChatGPT to develop professionally?

Table 2 outlines the major themes and subthemes for the first research questions, and they are elaborated on, followed by extracts from the participants, in the following paragraphs.

Table 2. Themes and subthemes related to the first research question

Major Themes	Subthemes
AI's potential to instill creativity	Enhances experiential learning, autonomy, collaboration, and innovation. Provides real-world content, feedback, and problem-solving. Supports lesson planning, task design, and teaching techniques.
AI's capability for professional and autonomous development	Encourages reflection, collaboration, and practical experience Connects theory and practice. Provides constructive feedback and scaffolding. Enhances self-regulation and emotional control.

4.1.1. AI has the potential to instill creativity into preservice teachers

AI was an innovative, interactive, and effective partner for preservice teachers, facilitating their teaching, learning, and professional development. This innovation was mainly due to its "*accessibility to current and first-hand knowledge of teaching theories and practices"* as stated by preservice teacher 8 (O). In previous traditional teacher education, teacher educators explained the abstract concepts and pre-service teachers absorbed information, while "*AI could enhance pre-service teachers' experiential learning, autonomy, collaboration skills, transformation, and innovation"* (Teacher Educator 2[I]). Another teacher educator observed that: "*Three student teachers could improve their experiential learning while participating actively, receiving real-world and relevant content and feedback, reflecting on their practices with ChatGPT, having collaboration, solving problems, and creating safe learning environment to improve their teaching practices continuously"* (O). AI tools were used in a creative way to support teacher educators and preservice teachers in order to gain authentic and real-world content, work as a teaching assistant to teach and assess, enhance their interactive practices, and improve their professional development, provide immediate, constructive, and supportive feedback for pre-service teachers during their initial teaching practices, as stated preservice Teacher 2 as follows:

> Umm … When I used ChatGPT to enhance my teaching, its feedback encouraged me to consider different factors, such as students' learning styles, contextual factors, facilities, students' motivation and proficiency, policies and initiatives, and so more. It was such a big help related to my personal and professional needs. (I)

ChatGPT was also seen as a personalized learning system that could help with designing tasks and lesson plans, observing teaching quality, checking the progress, grading assessment, and managing responsibilities. Preservice teacher 8, for instance, pointed out that "*I used ChatGPT to meet my needs and interests. Besides, it helped me with my teaching from the beginning to the end, such as devising lesson plans, preparing tasks, and suggesting teaching techniques"* (GD). ChatGPT could provide the required knowledge and skills, assistance and help, and solutions and ideas to problems for pre-service teachers. As stated by teacher educator 1, "*I am sure that pre-service teachers could be more knowledgeable, professional, and effective by the means of AI, since AI was such a helpful partner to them. They could learn how to teach skills such as reading or listening and speaking or writing more effectively by interacting with ChatGPT"* (N). Furthermore, preservice teachers could gain confidence to control, manage, and direct their own learning autonomously by receiving constant guidance and support from an AI-based ChatGPT, as explained by preservice teacher 7: "*I learned how to teach grammar more effectively by planning lessons, preparing authentic content, designing tasks, administering through games, and assessing creatively with the help of ChatGPT".* (I).

4.1.2. Doing CRP Through ChatGPT leads to professional and autonomous development

Pre-service teachers were able to collaborate and reflect on their experiences, search for new information, expand their knowledge and awareness, and generate innovative ideas and actions resourcefully with ChatGPT, as stated by preservice teacher 5: "*I could reflect on my vocabulary teaching, and knew that students' previous learning, their motivation and interest, and learning styles*

should be considered, so collaborating with ChatGPT enhanced my awareness regarding teaching vocabulary" (GD). Furthermore, doing CRP with ChatGPT helped preservice teachers monitor their teaching, gain practical experience, find the gaps, conduct strategies wisely, and connect theories and practice professionally. Teacher educator 1, for example, asserted that "*Pre-service teachers could do the same procedure of human-based CRP with AI-based ChatGPT, such as observing, planning, acting, and reflecting"* (N). Personally, they exercised more agency, took wise actions, changed their belief systems, controlled and managed their emotions, and became more creative and critical. In this regard, preservice teacher 1 expressed the following ideas:

> *"Well, as a novice teacher, I cannot regulate my emotions perfectly, specifically the negative ones. But, ChatGPT enhanced my cognition and awareness to control and manage it. Considering the time when I was anxious of students' poor behavior, ChatGPT provided some solutions to implement them in my class, and I was successful."* (I)

When CRP was conducted with ChatGPT, preservice teachers received more constructive feedback, scaffolding, and support for their teaching practice and pedagogical choices during and after teaching hours. To give an example, teacher educator 2 explained that preservice teachers could "*examine practice and recognize and solve problems, adapt and change the established practices that were not effective for present students, and foster situated awareness of the context and students"* (I). Accordingly, pre-service teachers became more analytical and reflective, possessed a collective inquiry, changed for positive results, adapted their thoughts and actions, and shared thoughts and emotions with ChatGPT. In this way, as teacher educator 1 observed, "*pre-service teachers turned out to be more self-regulated and collaborative to develop professionally with AI continuously"* (O)"

4.2. Investigation of the second research question: What are the benefits and challenges of doing CRP with ChatGPT for preservice EFL teachers?

The major themes and subthemes regarding the second research question are presented in Table 3. Detailed explanations accompanied by the participants' quotes are discussed in what follows.

Table 3. Themes and subthemes related to the second research question

Major themes	Subthemes
Advantages of Using AI for preservice teachers	Accessibility for use anywhere and anytime Personalized learning and teaching assistance Provision of constructive feedback and self-directed learning Enhancement of engagement, motivation, and self-regulation
Challenges of Using AI for doing CPR for preservice teachers	Limited interpersonal and human-oriented relationships Restricted social, emotional, and cultural development Limited interaction with peers and colleagues Frustration is use of AI due to poor internet connectivity Restricted agency and innovation as result of overreliance on AI

4.2.1. Advantages of using AI in teacher education

AI-based ChatGPT can be an enriched source for pre-service teachers and teacher educators to find related articles and books, create tasks and exercises, reflect on experiences, examine performance, and recognize gaps of knowledge. Preservice 3, for example, stated that "*ChatGPT guided my reflection on my classroom behavior, attitudes, and discourse constructively and offered some recommendation to enhance it"* (N). ChatGPT is also approachable anytime and anywhere with which teachers can use comfortably to upgrade their knowledge, skill, and practice. Moreover, it is seen as a personalized learning and teaching assistance by having constructive feedback, learn from their own experience, motivate a self-directed learning approach, and fulfill their needs and interests, as pointed out by preservice teacher 1: "*Such an awesome tool! I used it to make some concepts clear, such as what self-correction is and how it should be used in my teaching"* (I).

Additionally, pre-service teachers can receive help regarding how to prepare and generate authentic, relevant, and beneficial content for students, plan the way they should present them with appropriate and engaging teaching approaches and techniques, and use different forms of assessment to provide feedback and boost their practices formatively. In this regard, preservice teacher 2 offered the following ideas: *"So, we enhanced our engagement and motivation, self-regulation and self-development, and knowledge and skill by reflecting collaboratively with ChatGPT. The result led to more effective materials, content, resources, teaching, and evaluation"* (N).

4.2.2. Challenges preservice teachers face in using ChatGPT to do CRP

There are several negative points for doing CRP with ChatGPT, such as lack of inter-personal and human-oriented relationships in a group, team, or a community to develop mutually with peers and colleagues. For example, teacher educator 2 noted that "*I guess that … pre-service teachers could work together with team teaching and coaching techniques to break their isolation"* (N). Besides, teachers focused on the input received from ChatGPT with little critical or creative thinking, which can damage

teachers' agency and innovation. "*I only listened to whatever ChatGPT offered, and I confirmed whatever presented",* preservice teacher 4 mentioned in one of the group discussions. Additionally, pre-service teachers should be developed socially, emotionally, and creatively through social practices, since they have restricted interaction with others while doing CRP with ChatGPT. This is what preservice teacher 5 lamented about: "*I could interact with it, yet there was no fun, interaction, feeling, and encouragement"* (I).

As internet connection can sometimes be poor in Iran, there are some connection problems during the connection, which can frustrate users. Preservice teachers and teacher educators should be trained to gain AI literacy and use ChatGPT effectively, influencing the way they implement AI for learning and teaching purposes. Also, CRP with ChatGPT limits the cultural awareness and increases unethical behaviors and practices, such as overreliance on ChatGPT. Preservice teacher 7 highlighted this challenge as follows: "*ChatGPT made me lazy as I used it for all of my teaching practices. Also, the poor internet connection was an obstacle and hinder*" (N). To enhance their contextual and cultural understanding, teachers should interact with other peers and teachers. Moreover, CRP can be conducted in a community of practice with other peers to create a friendly and supportive learning atmosphere. However, this interaction is unsatisfactory, as preservice teacher 4 explains: "*In my opinion, since I could not connect well due to limited speed of internet, have social connection, and possess little knowledge of AI, I faced many challenges throughout the process"* (I).

5. Discussion

As far as the first research questions is concerned, the findings of this study show that pre-service EFL teachers can use CRP with ChatGPT to grow professionally. ChatGPT functions as a teaching assistant and a virtual tutor, providing advanced and innovative chances for pre-service teachers to improve their instructional beliefs, theories, principles, and techniques. By means of ChatGPT, pre-service teachers can get the latest teaching knowledge, methods, and techniques, nurturing their instructional practices and experiential learning (Jeon & Lee, 2023; Kohnke et al., 2023). The results of this study support previous research, which underscores the role of ChatGPT in boosting professional development. To illustrate, Kasneci et al. (2023) found that AI tools like ChatGPT offer direct and practical feedback, empowering pre-service teachers to improve their theoretical knowledge and practical skills. Likewise, Koedinger et al. (2012) highlighted that AI-based systems can link theory and practice by proposing systematic support and assistance. In the present study, pre-service teachers stated that ChatGPT helped them reflect collectively, resolve instructional issues, and foster their pedagogical competence and teaching skills.

Although the findings of the present study confirm the professional benefits of ChatGPT, the findings contrasts with some of previous studies. As such, Bridgeman and Shipman (2022) discussed that AI tools may require the depth of human interaction desired for complex professional development. This study recognizes that although ChatGPT is effective in offering personalized feedback and tasks, it cannot completely replicate the social and emotional aspects of peer collaboration, which are vital for complete professional development.

Concerning the second research question, the study recognized numerous benefits of employing CRP with ChatGPT for pre-service EFL teachers. Initially, ChatGPT offers genuine and enhanced input, enhancing its access to present language teaching knowledge, developing educational practices and experiential learning (Dwivedi et al., 2023). Then, it affords instantaneous, constructive, and procedural feedback, which certainly impacts pre-service teachers' social interactions, reflective learning, and teaching practices (Kasneci et al., 2023). Furthermore, ChatGPT acts as a personalized learning system, producing tasks and lesson plans suitable for specific needs and interests, thus boosting instructional quality and efficiency. These findings confirm some of the findings from previous studies conducted recently. For instance, Lim et al. (2023) highlighted the ChatGPT's capacity to nurture autonomy and self-regulation among learners, which supports the observation of the study that pre-service teachers developed more autonomy, creativity, and motivation. Furthermore, Morron (2023) highlighted the role of ChatGPT in supporting teachers socially and emotionally, which ChatGPT's potential to monitor and increase emotional and behavioral features of teaching.

In spite of these benefits, the study also acknowledged challenges connected with employing ChatGPT for CRP. One major restriction is the reduced interpersonal and peer-based communications, which adversely influence emotional, social, and cultural development. Even though ChatGPT is collaborative, it cannot replicate the empathetic feedback, game-based activities, and fun-making moments that peer collaboration suggests (Jeon & Lee, 2023). This finding is in contrast with that of Kohnke et al. (2023), who contended that AI tools can completely support social learning. However, this study stresses that peer collaboration becomes indispensable for overcoming separation and nurturing original teaching practices. Another challenge is the potential over-reliance on ChatGPT, which may impede the growth of critical thinking and creative reflections. This supports the assertion expressed by Kasneci et al. (2023), who concluded that too much reliance on AI tools could damage teachers' autonomous decisions and creative actions. Besides, the study underlines real-world challenges, including the necessity for fast internet connection, better AI literacy among teachers, and ChatGPT's restricted understanding of various cultural and contextual features. These restrictions imply that CRP with ChatGPT should be complemented with peer and community-based practices to produce a supportive learning setting.

To recapitulate, the findings of this study both support and deviate from previous research. On the one hand, the study supports the role of ChatGPT in augmenting professional development, as maintained by Kasneci et al. (2023) and Koedinger et al. (2012). On the other hand, it underscores restrictions, including reduced peer collaboration and too much dependence on AI, which differ with the more positive views of Kohnke et al. (2023). Also, the study highlights the necessity for a stable approach that incorporates AI tools with human collaboration, a perspective that is progressively highlighted in current literature (e.g., Lim

et al., 2023; Morron, 2023). Hence, this study indicates that pre-service EFL teachers can conduct CRP with ChatGPT to develop professionally, benefiting from personalized feedback, enhanced input, and experiential learning. However, the challenges such as incomplete peer interaction and over-reliance on AI must be addressed.

6. Conclusion

This study investigated the potential of incorporating ChatGPT as an AI-based tool to foster CRP among pre-service EFL teachers. Narratives, interviews, observations, and group discussions were used to explore the opinions of eight pre-service EFL teachers and two teacher educators. The findings revealed that ChatGPT can function as an accessible, creative, and educational instrument to support pre-service teachers in their professional development. Specifically, it can act as a virtual mentor and collaborator, empowering pre-service teachers to reflect on novel experiences, obtain knowledge, solve challenges, plan strategic actions, and nurture creativity. As such, ChatGPT's capacity to offer instant, constructive, and helpful feedback during initial teaching practices underlines its value as a resource for novice teachers. Although we confirm the relative utility of AI tools such as ChatGPT in teacher education programs to foster preservice teachers' professional development, teacher educators need to consider the limitations AI tools have, and such tools should not be considered as panacea for all the problems teachers may face in their future careers.

The present study has its own limitations. Firstly, the small sample size hampers the generalizability of the findings, signifying the necessity for future research with a larger and more varied participant. Additionally, the study's qualitative design, could be added by a mixed-methods approach to offer a more comprehensive understanding of how AI tools such as ChatGPT influence pre-service teachers' CRP development. As an example, a pre-test-post-test experimental design can quantitatively measure variations in pre-service teachers' attitudes, behaviors, and practices, while qualitative methods can explore their reflective and collaborative experiences more deeply. Furthermore, future studies should consider examining how pre-service EFL teachers from various cultural contexts and teacher education programs may apply AI tools for reflective and collaborative development, with a focus on their attitudes, emotions, and teaching strategies. Such inquiries will offer a more detailed understanding of the role of AI in teacher education.

Despite the limitations, the findings may offer implications for teacher educators, school administrators, stakeholders, and policymakers to integrate AI tools like ChatGPT into teacher education programs. In this case, they can improve pre-service teachers' cognitive and social functioning, nurturing a generation of educators who are not only technologically skillful but also culturally approachable and reflective in their teaching practices. Eventually, the thoughtful incorporation of AI in teacher education has the potential to renovate how pre-service teachers develop professionally and autonomously, making them ready for the challenges the language classes may pose in the future.

7. References

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