

Investigating Pre-Service Language Teachers' Experiences with Generative AI in Language Education

Yabancı Dil Öğretmen Adaylarının Dil Eğitiminde Üretken Yapay Zekâ Deneyimlerinin İncelenmesi

Ramazan YETKİN *  Zekiye ÖZER-ALTINKAYA ** 

Received: 24 November 2025

Research Article

Accepted: 31 March 2026

ABSTRACT: The rapid expansion of generative artificial intelligence (Gen AI) tools, such as ChatGPT, has significantly influenced practices in language teacher education, creating new opportunities for innovation and instructional support. This study explores how pre-service English teachers experience and perceive the use of Gen AI in language education contexts. 14 participants engaged in AI-supported activities, and data were collected through reflective journals, semi-structured focus group interviews, and analysis of instructional materials they developed. Thematic analysis revealed several affordances of Gen AI, including enhanced creativity, increased efficiency, adaptability, and support for professional development. However, participants also reported challenges, such as concerns about reliability, risks of over-reliance, cultural limitations, and ethical considerations. The findings emphasize the importance of maintaining a balance between AI use and pedagogical judgment, highlighting the need for teacher guidance and critical engagement. Overall, the study underscores the potential of Gen AI as a supportive tool in teacher education while reinforcing the necessity of human oversight and reflective practice.

Keywords: Generative AI, pre-service teachers, teacher training, AI in language education, technology integration

ÖZ: Üretken yapay zekâ araçlarının, örneğin ChatGPT'nin, hızla yaygınlaşması, dil öğretmeni eğitimindeki uygulamaları önemli ölçüde etkilemiş ve yenilik ile öğretimsel destek açısından yeni olanaklar yaratmıştır. Bu çalışma, İngilizce öğretmeni adaylarının dil eğitimi bağlamlarında üretken yapay zekâ kullanımına ilişkin deneyimlerini ve algılarını incelemektedir. Araştırmaya katılan on dört katılımcı, yapay zekâ destekli etkinliklere katılmış; veriler yansıtıcı günlükler, yarı yapılandırılmış odak grup görüşmeleri ve katılımcıların geliştirdikleri öğretim materyallerinin analizi yoluyla toplanmıştır. Tematik analiz, üretken yapay zekânın sağladığı çeşitli olanakları ortaya koymuş; artan yaratıcılık, verimlilik, uyarlanabilirlik ve mesleki gelişime katkı öne çıkmıştır. Bununla birlikte katılımcılar, güvenilirlik konusundaki endişeler, aşırı bağımlılık riski, kültürel sınırlılıklar ve etik hususlar gibi zorluklara da dikkat çekmiştir. Bulgular, yapay zekâ kullanımının pedagojik yargıyla dengelenmesinin önemini vurgulamakta; öğretmen rehberliği ve eleştirel katılımın gerekliliğine işaret etmektedir. Sonuç olarak, bu çalışma üretken yapay zekânın öğretmen eğitiminde destekleyici bir araç olarak potansiyelini ortaya koyarken, insan denetimi ve yansıtıcı uygulamaların gerekliliğini de vurgulamaktadır.

Anahtar kelimeler: Üretken yapay zekâ, öğretmen adayları, öğretmen eğitimi, dil eğitiminde yapay zekâ, teknoloji entegrasyonu

* Corresponding Author: Assoc. Prof. Dr., Niğde Ömer Halisdemir University, Niğde, Türkiye, ryetkinn@gmail.com, <https://orcid.org/0000-0002-4688-509X>

** Asst. Prof. Dr., Niğde Ömer Halisdemir University, Niğde, Türkiye, zekiye.ozer@ohu.edu.tr, <https://orcid.org/0000-0001-8673-8687>

Citation Information

Yetkin, R., & Özer-Altinkaya, Z. (2025). Investigating pre-service language teachers' experiences with generative AI in language education. *Kuramsal Eğitimilim Dergisi [Journal of Theoretical Educational Sciences]*, 19(3), 525-544. <http://doi.org/10.30831/akukeg.1829191>

Developments in AI technology have facilitated education (Hwang et al., 2020; Tolstykh & Oshchepkova, 2024; Zhang & Aslan, 2021), transforming traditional teaching and learning environments. AI technologies also present significant benefits for language education (Yetkin, 2026). Therefore, studies have dramatically increased, specifically focusing on integrated language education (e.g., Hınız, 2026; Mahapatra, 2024; Wei, 2023). Researchers have explored the effectiveness of AI tools in improving language learning outcomes (Karataş et al., 2024; Wei, 2023; Yang et al., 2022), revealing AI's potential to enhance language learning experiences. These tools offer personalized learning experiences, save teachers' time and effort in designing materials and giving feedback, and improve learning outcomes (Kasneci et al., 2023). The opportunities and innovations provided by AI tools have motivated educators to integrate them into their teaching practices. Given these affordances of AI, it is necessary to explore both teachers' and learners' perceptions regarding integrating these technologies, as well as the benefits and challenges of such integration, to understand how these tools can be effectively implemented in educational settings (cf. Tanık-Önal et al., 2026). Enhancing the overall effectiveness of AI in the classroom makes it possible to improve the quality of education.

Previous studies have examined teachers' perspectives on the use of AI in language instruction, shedding light on their attitudes, concerns, and expectations (Choi et al., 2023; Chounta et al., 2022; Kartal, 2024). Those studies have revealed that although teachers recognize the value of AI tools, they have concerns, such as the lack of knowledge regarding the effective use of these tools (Hartono et al., 2023), the accuracy of information provided by AI (ElSayary, 2024), and over-dependence on AI (Alwaqdani, 2025). Overall, these studies have showcased the potential of AI to enhance education, but to integrate AI effectively, it is essential to address its challenges by identifying and mitigating the barriers, such as training (Özer-Altinkaya & Yetkin, 2025), that teachers and students face when utilizing these tools.

Given this context, conducting further studies on AI-based instruction is essential to fully understand its implications for teaching and learning processes. While previous research has explored pre-service English language teachers' perspectives and experiences with AI tools (e.g., Tanık-Önal et al., 2026; Yetkin & Özer-Altinkaya, 2024), studies directly examining the role of AI in supporting lesson planning, content creation, and practical instructional applications remain limited. Investigating teachers' experiences with AI in these specific instructional processes could provide valuable insights into both the affordances and challenges of AI integration, such as enhancing creativity, adaptability, and efficiency, as well as potential barriers, including insufficient training, limited resources, and ethical concerns. By addressing this gap, research can inform the development of targeted teacher education programs and practical strategies that equip pre-service teachers to effectively leverage AI tools for lesson planning and instructional design, thereby enhancing the quality of language teaching.

Teachers' Perceptions and Competencies Regarding AI-based Instruction

Research has increasingly highlighted the importance of teachers' perceptions of AI integration in language education, as their views significantly shape teaching practices. Studies reveal that teachers harbor both positive and negative perspectives on

AI use. For instance, Gao et al. (2024) explored EFL teachers' beliefs in Chinese universities, identifying concerns such as academic integrity, overreliance on AI, skepticism about AI's effectiveness, its impact on teachers' professional roles and identities, the reliability of AI-generated content, and data security. Their findings also emphasized the role of experience, showing that teachers with greater engagement with AI tended to hold more positive beliefs about integrating it into education. Similarly, Al-khresheh (2024) found that while teachers recognized ChatGPT's potential to facilitate personalized and dynamic learning, they raised concerns about its inability to grasp cultural nuances, limited support for pronunciation and listening skills, challenges in real-world communication, risks of over-reliance on technology, and its potential to stifle student creativity. Echoing these findings, ElSayary (2024) identified similar benefits and challenges of AI integration but highlighted the lack of human interaction as a critical obstacle, underscoring its implications for teaching and learning.

These studies illustrate teachers' diverse perspectives regarding AI integration while also underscoring the challenges that must be addressed for its successful adoption. Beyond exploring AI's impact on teaching and learning, it is essential to consider teachers' needs and competencies to ensure the effective implementation of AI tools in classrooms. Teachers' proficiency in using AI tools significantly influences the success of AI-based instruction. The literature highlights concern about teachers' ability to integrate these technologies effectively (Hartono et al., 2023; Ma et al., 2024; Yetkin & Özer-Altinkaya, 2024). In particular, Ma et al. (2024) examined the skills required for language teachers to use ChatGPT ethically and effectively, emphasizing that teacher readiness and familiarity with the technology are key to successful implementation. Consequently, targeted training programs are needed to equip teachers with the essential skills and knowledge to optimize AI integration. Reinforcing this point, Kohnke et al. (2023) and Hojeij et al. (2025) emphasize the importance of tailored support to build teachers' confidence and skills in effectively adopting AI tools. These findings underline the need for comprehensive training initiatives to enhance teachers' competencies, ultimately improving teaching and learning outcomes.

Recent studies conducted in Türkiye also point to similar issues regarding AI readiness among language teachers. For example, Arslan (2025) found that, although EFL instructors perceived themselves as moderately competent in using AI for language teaching, interviews revealed significant gaps in their technical and pedagogical knowledge. The findings highlighted the necessity for targeted professional development and training on AI tools. A study with 15 pre-service EFL teachers (Karaduman, 2025) found mostly positive attitudes toward the use of AI in language teaching. However, their confidence in their AI skills was limited due to inadequate training. This underscores the need to improve AI literacy in Turkish EFL teacher education. Supporting these findings, another study (Derinalp & Hanife, 2025) on pre-service EFL teachers' attitudes also found mostly positive views of AI but noted concerns like limited AI knowledge, susceptibility to misinformation, anxiety about using AI tools, and ethical considerations. Building on this perspective, Cennetkusu (2026) observed that teachers generally have positive attitudes toward AI but also highlighted ethical concerns, worries about overreliance, and the importance of preserving teacher agency in AI-supported classrooms. Taken together, these studies underscore the growing focus on AI integration in Turkish EFL settings and highlight

the importance of enhancing AI literacy and professional development opportunities for teachers.

The integration of AI into language education presents both exciting possibilities and significant challenges for pre-service teachers. A previous study (Kerr & Kim, 2025) indicated that pre-service teachers understand AI's potential to select topics, generate materials, organize lessons, and review language. However, many pre-service teachers feel unprepared to use AI effectively, often citing gaps in their technical skills, pedagogical knowledge, and confidence in using AI responsibly (Bobkina & Romero, 2026; Özer-Altinkaya & Yetkin, 2025; Su et al., 2025). Despite these challenges, pre-service teachers consistently view AI as a support tool rather than a substitute for teachers (Babanoğlu et al., 2025; Yetkin, 2026), highlighting the significance of professional judgment, learner-centered instruction, and emotional guidance. These findings emphasize the importance of implementing targeted AI literacy training in teacher education programs. This will better prepare future educators to integrate AI into their instructional planning and classroom practices effectively, ethically, and with appropriate contextual understanding.

Affordances and Challenges of AI-based Instruction

AI technology has significantly transformed language education by introducing innovative tools that enhance the efficiency and quality of learning experiences. Researchers have examined the effects of AI on language-specific skills and teaching activities (e.g., Alexander et al., 2023; Barrot, 2023; Zou et al., 2023). For example, Qiao and Zhao (2023) investigated the effectiveness of AI-based instruction in improving speaking skills and fostering self-regulation. Their findings demonstrated that this approach enhanced learners' speaking abilities while supporting self-regulatory processes. Similarly, Shafiee Rad (2024) found that learners using AI applications achieved higher speaking proficiency than those relying on traditional methods. Expanding on these findings, Fathi et al. (2024) examined the impact of AI-based activities on speaking fluency, coherence, and pronunciation, further affirming that AI technologies effectively enhance speaking competencies.

In addition to speaking, AI's role in developing writing skills has gained considerable attention. Studies highlight that AI-assisted writing tools can significantly improve learners' writing proficiency (Mahapatra, 2024; Song & Song, 2023). For instance, Song and Song (2023) found that students receiving AI-based instruction demonstrated marked improvements in grammar, vocabulary, organization, and coherence. Likewise, Punar-Özçelik and Yangın-Ekşi (2024) explored ChatGPT's potential in teaching register knowledge in English writing, revealing its effectiveness in enhancing students' formal writing skills. Another study by Fathi and Rahimi (2026) with IELTS students reported significant gains in academic writing proficiency through interactive activities using ChatGPT. Building on this, Mahapatra (2024) explored ChatGPT as a formative feedback tool, noting improvements in writing skills and positive learner perceptions of AI-based instruction. These findings collectively underscore the potential of AI tools in enhancing writing skills, emphasizing the importance of incorporating these technologies into language education.

Beyond language skills, AI tools have been found to positively influence affective factors such as motivation, engagement, and emotional well-being (Huang et

al., 2024; Wei, 2023; Yuan & Liu, 2024). Yuan and Liu (2024) provided valuable insights into the motivational and engaging effects of AI tools, highlighting their role in fostering learners' enjoyment. Similarly, Huang et al. (2024) examined the relationship between AI acceptance and learners' well-being, concluding that AI integration creates a more positive, personalized, and engaging learning environment. These results suggest that incorporating AI into language education enhances the learning process and improves learners' emotional experiences, underscoring the importance of these tools for holistic development.

Despite these advantages, several challenges must be addressed to ensure the effective integration of AI in language education. Pack and Maloney (2024) identified key challenges, including ethical concerns, ownership of AI-generated content, accuracy and reliability of AI outputs, unequal access to AI tools, overdependence on AI, and inherent biases. Dai and Liu (2024) further noted that AI integration may hinder critical thinking, raise privacy concerns, reduce attention spans, increase educational costs, and exacerbate academic dishonesty. Yan (2023) noted that plagiarism detection issues, inequitable learning opportunities, and impaired motivation are additional challenges associated with AI adoption. These findings underscore the importance of addressing such issues to maximize AI's benefits while mitigating its negative impacts (Mohamed, 2024). In summary, while AI offers transformative potential for language education by enhancing skills, fostering engagement, and improving well-being, its effective integration requires careful consideration of the associated challenges.

Current Study

It is now well established across a range of studies that AI-integrated language education offers both opportunities and challenges (Yetkin & Özer-Altınkaya, 2024). Previous research has also highlighted the importance of addressing teachers' beliefs and needs regarding AI integration to ensure its effective implementation (e.g., Alvarez et al., 2024; Prestridge et al., 2025; Sui & Chang, 2026). Given this context, this study aims to explore the PELTs' views on AI integration in language education. This study aims to provide deeper insights into pre-service teachers' perceptions of AI's potential benefits and limitations for enhancing language learning, and how their attitudes might shape their approach to using AI tools in their future classrooms. In line with this goal, the research set out to explore the following questions:

1. What are the proposed affordances and challenges of using AI in language classrooms?
2. What are learners' future-oriented emotions regarding using and integrating AI in language classrooms?
3. What are learners' insights on the use of AI compared to traditional methods in language classrooms?

Method

Context and Participants

This study was conducted at a state university in Türkiye with participants enrolled in a BA program in English Language Teaching (ELT). The participants were 14 junior English majors (eight males and six females) who enrolled in either the "Material Design" or "Course Content Development" courses and participated in the

study. These courses cover similar content and aim to equip students with knowledge and skills in material and content development, adaptation, and lesson planning. Convenience sampling was used to select participants based on their accessibility (Emerson, 2015). Students were approached in person during regular classes and invited to take part in the study. An overview of the study's objectives, procedures, and expected outcomes was provided, emphasizing voluntary participation and confidentiality. It was explicitly stated that their participation would not affect their course grades or any other aspect of their academic performance. Of the 75 students enrolled in these courses, 16 initially volunteered, 14 completed all study-related activities, and two withdrew before the conclusion of data collection.

The participants had already completed relevant courses in which they engaged in material creation, lesson planning, and microteaching. For the study and as part of the course requirements, they were expected to create two distinct lesson plans in groups of up to four to five members. The first lesson plan was developed using traditional methods, allowing students to use various resources, such as books, articles, and internet sources, without relying on Gen AI tools. However, they were permitted to use AI-based websites for specific activities. For the second lesson plan, students were required to design their materials using AI tools. In addition to large language models (e.g., ChatGPT, Copilot, or Gemini), they were expected to incorporate other generative AI tools when creating lesson plans and instructional content. They were encouraged to use these AI resources responsibly, ensuring that they did not claim any AI-generated ideas or activities as their own. To maintain transparency and originality, students included all their prompts as appendices in the final versions of their AI-supported lesson plans. Both lesson plans were subjected to a Turnitin plagiarism check and ChatGPT 4 to ensure authenticity and originality before the final evaluation. This comprehensive setup allowed the study to explore how integrating AI influenced students' development of materials and course content, lesson planning, and teaching practices.

Data Collection

Data for this study were primarily collected through reflective journals and semi-structured focus group interviews. The students were asked to reflect on their experiences, challenges, and affordances encountered in creating both types of lesson plans, with particular emphasis on the process of using AI and on the affordances and negative impacts of AI-supported lesson plans. Even though some guiding statements were provided, students were encouraged to reflect freely on their experiences and were not restricted to those questions.

For the focus group interviews, questions were designed to elicit participants' perceptions, insights, and experiences with AI use in lesson planning, with a focus on both its affordances and challenges. Example questions included *"How effective do you find the lesson plan generated by the AI tool? Does it achieve its intended goals successfully? Why or why not?"* and *"What are some potential negative impacts of incorporating AI in language classrooms and material design?"* These questions encouraged participants to reflect on their experiences with AI tools, including how those tools influenced their creativity, adaptability, and professional development. To capture a more nuanced understanding of participants' experiences, supplementary questions explored their perceptions of usability, reliability, and the balance between AI

support and human decision-making, such as *“Which aspects of AI use facilitated your lesson planning the most, and which aspects presented difficulties?”* and *“How did using AI tools change the way you approached lesson planning compared to traditional methods?”* Conducted in Turkish to ensure participants could express themselves fully, the interviews were recorded with consent to minimize data loss. Carried out in two groups, each lasting approximately 50 minutes, the focus group discussions provided in-depth insights into participants' experiences, highlighting both the practical affordances of AI and the challenges they encountered in integrating it into their lesson planning processes.

Data Analysis

A qualitative content analysis approach was adopted for data analysis. The entire dataset, comprising transcriptions from the reflective journals and recorded interviews, underwent an inductive process as outlined by Azungah (2018). This approach allows analysis of data without pre-established categories, enabling themes to emerge naturally. Researchers engaged in iterative readings of the dataset to familiarize themselves with the content, which deepened their understanding and facilitated the identification of recurring themes. Following this initial phase, thematic analysis was conducted using the structured approach proposed by Braun and Clarke (2006), encompassing six key steps: (1) familiarization with the data, (2) generating initial codes, (3) developing initial themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the analytical report. While the analysis remained primarily qualitative, frequency counts were also calculated to indicate the relative prevalence of identified themes across participants. Throughout this process, cross-validation was performed to ensure consistent and accurate interpretation of the data. Any identified discrepancies were collaboratively discussed and reconciled, thereby enhancing the reliability and validity of the study findings. To further ensure the credibility of the analysis, regular consultations were held with a scholar experienced in qualitative methodologies. The final themes and codes were then refined and organized into unified categories, ensuring a systematic and trustworthy interpretation of the data.

Ethical Procedures

The present study was carried out in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from an anonymous university, as documented in the official approval dated 03/12/2024 with reference number/folder 22504254-050.04. All participants were fully informed about the purpose, procedures, and potential risks of the study, and their voluntary informed consent was obtained prior to participation. The confidentiality and anonymity of participants were strictly maintained, and all data were securely stored and used solely for research purposes. Participants were explicitly informed of their right to withdraw from the study at any time without negative consequences.

Results

The analysis of participants' reflections on AI integration in language education revealed a nuanced understanding of its potential affordances and challenges. Overall, participants recognized that AI offers considerable benefits, including enhanced efficiency, creativity, adaptability, and support for teacher development, making it a

valuable tool in lesson planning and teaching. However, they also expressed concerns about the reliability and accuracy of AI-generated content, the risk of over-reliance leading to diminished creativity, and the technology's limitations in addressing cultural and emotional nuances. Additionally, ethical and technical challenges, such as data privacy and infrastructure issues, emerged as significant considerations. Despite these concerns, participants expressed optimism about AI's role in future teaching practices, emphasizing the need for a balanced approach that leverages AI's strengths while preserving the essential human elements of interaction and adaptability in language education. This combination of enthusiasm and caution underscores the importance of thoughtful implementation of AI to maximize its potential in educational settings.

Affordances of AI Integration in Language Education

This section explores AI's advantages for language education, highlighting its contributions to efficiency, creativity, adaptability, and teacher development. Participants noted that AI tools streamline lesson planning, allowing educators to save time and focus more on student engagement. AI's ability to generate diverse instructional materials enriches the educational experience, catering to different student interests and learning styles. Furthermore, AI's adaptability enables real-time modifications to lesson content, promoting effective differentiation. The supportive role of AI in teacher development is also emphasized, as it provides resources and insights that enhance teaching practices.

Table 1

Affordances of AI in Language Education

Theme	f	Representative Excerpt
Efficiency and Practicality	12	<i>"With the help of AI, it is practical, economical, and efficient because you do not have to spend hours creating a lesson plan." (Alex)</i>
Creativity	9	<i>"AI can give us more information and be more creative than humans." (Alex)</i>
Adaptability	5	<i>"We teachers can observe our students and use our experience to customize the lesson plan according to our students' needs." (Alex)</i>
Supporting Teacher Development	4	<i>"I ask AI how to teach a specific skill or topic, so I gain insight about the topic and get some examples." (Adam)</i>

Participants highlighted several affordances of integrating AI into language education, particularly its contributions to efficiency, creativity, adaptability, and teacher development. The foremost advantage noted was AI tools' ability to enhance efficiency and practicality in lesson planning. Educators reported that AI significantly reduces preparation time, enabling them to focus more on student engagement and instructional strategies. This efficiency is especially valuable in contexts where teachers face extensive administrative responsibilities. By alleviating these burdens, AI empowers educators to craft more engaging learning experiences and respond effectively to their students' needs. Owen reflected, *"I think it will be beneficial*

for us to integrate AI tools into our lesson plans, which we will use in the future. I think it gave us everything we wanted and did so correctly. We benefit from it by arranging it in a way that will contribute to us." Zara emphasized, "AI is a great tool for teachers because it provides creative ideas, activities, and tasks for students; it is practical because a teacher wastes a lot of time when they prepare lesson plans on their own, whereas AI helps teachers save time." Bella concurred, "AI provides incredible convenience in terms of saving time. Even thinking about an activity suitable for the subject can sometimes be a difficult and long process."

AI was also recognized for fostering creativity and offering diverse instructional materials tailored to specific learning objectives, enriching the educational experience. Participants noted that AI could suggest a variety of engaging activities that cater to different student interests, helping address diverse learning styles. This capability enhances student motivation and engagement. Additionally, AI's adaptability allows teachers to respond dynamically to changing classroom needs. Alex remarked, "AI can give us more information and be more creative than humans." Eli shared, "The variety of activities that AI suggests makes my lessons more engaging for students." Jonah added, "In AI-integrated lesson programs, there is an unlimited knowledge network."

The adaptability and customization afforded by AI tools were particularly valued for promoting differentiation and inclusivity in classrooms. AI's capacity for real-time modifications to lesson content allows educators to address varied proficiency levels and learning styles, fostering a more supportive learning environment. Teachers can use AI to tailor activities to their students' learning pace and needs. Bella highlighted this adaptability, noting, "The activity can be simplified depending on the complexity level of the activity." Adam added, "AI helps me adjust my lessons according to what my students need at that moment."

Lastly, participants acknowledged AI's role in teacher development. Beyond lesson planning, AI provides professional growth resources, including access to pedagogical strategies, contemporary teaching practices, and innovative techniques. This access helps educators stay current with educational trends and enhance their instructional methods. Isla observed, "As soon as teachers run out of creativity, they can use AI-created lesson plans. In other words, the durations and activities of AI-created lesson plans can be used." Ella noted, "AI tools are more useful for preparing technology-integrated lesson plans as they simplify the process and provide more details and technological advice. (With AI) We learn different techniques to teach subjects, and these methods are well-suited for new generations."

Negative Impacts of AI-integration in Language Education

In this section, participants articulate the challenges associated with integrating AI into educational contexts. Key concerns include the reliability and accuracy of AI-generated content, which can undermine the teaching process if it contains inaccuracies. Teachers express apprehension about over-reliance on AI tools, fearing that it may inhibit students' creativity and critical thinking skills. Additionally, AI's cultural and emotional limitations are discussed, with participants noting its inability to grasp cultural nuances essential for effective language instruction. Ethical concerns surrounding data privacy and bias in AI-generated materials also emerge as pressing issues that need to be addressed.

Table 2
Negative Impacts of AI in Language Education

Theme	f	Representative Excerpt
Reliability	10	<i>"AI is not always consistent at providing the best information; it can spread misinformation." (Alex)</i>
Over-reliance	8	<i>"When students use AI every time, their ability to create new things will decrease." (Kason)</i>
Cultural Limitations	6	<i>"Cultural references that are important in teaching language can be completely overlooked by AI." (Adam)</i>
Ethical Concerns	5	<i>"There might be ethical concerns about privacy or bias in AI recommendations." (Aria)</i>

While the benefits of AI integration are significant, participants highlighted several challenges, particularly regarding reliability, over-reliance, cultural limitations, and ethical concerns. A major concern was the reliability and accuracy of AI-generated content. Participants expressed skepticism about the dependability of AI tools, warning of potential inaccuracies that could undermine the teaching process. In the context of language education, where precision is paramount, these concerns emphasize the need for thorough evaluation and verification of AI outputs. Alex noted, *"AI is not always consistent at providing the best information; it can spread misinformation,"* while Ruby remarked, *"AI cannot always provide what we want or need. Sometimes, it gives inaccurate or irrelevant suggestions."* Owen added, *"AI tools can sometimes give incomplete information. We may need to edit them."* Such reflections underscore the importance of ensuring the accuracy and relevance of AI-generated materials to prevent misinforming students.

Participants also discussed the risks of over-reliance on AI, cautioning that excessive dependence could inhibit students' creativity and problem-solving skills. Kason observed, *"When students use AI every time, their ability to create new things will decrease,"* while Bella warned, *"AI can lead both students and teachers to laziness."* Jonah echoed these concerns, stating, *"Incorporating AI into language classes and material design has some negative effects, such as getting used to the easy way."* These insights suggest that while AI can be an important tool, it should complement, not replace, traditional teaching methods, preserving the essential inquiry and critical thinking skills.

Additionally, participants highlighted the cultural and emotional limitations of AI. Many noted AI's inability to grasp cultural nuances and emotional contexts that are essential to effective language instruction. Freya remarked, *"AI doesn't understand cultural nuances,"* and Adam noted, *"AI can completely overlook cultural references that are important in teaching language."* Oscar added, *"AI may have deficiencies in these (cultural) areas, but we can easily correct them."* These reflections emphasize the need for educators to ensure AI-generated content aligns with students' cultural and emotional contexts, maintaining sensitivity and relevance in instructional materials.

Ethical concerns also emerged as pressing issues. Participants expressed apprehension about data privacy and potential bias in AI-generated materials. Zara observed, *"If we evaluate it (AI use) from an ethical perspective, I do not think that*

teachers who do not put in effort, thinking that it is easy to have AI prepare lesson plans, are acting ethically.” Ella highlighted the digital divide, noting, “Some students face difficulties using technology because they don’t have a computer or other technological tools at home, which leads to a lack of confidence in using technology.” Additionally, Eli pointed out infrastructural challenges, stating, “It is dependent on electricity. In Türkiye, it is inevitable to have problems with electricity.” These concerns underline the importance of establishing clear guidelines for the responsible and equitable use of AI in educational settings.

Future-related Emotions toward AI-integration

This section highlights participants’ optimistic yet cautious perspectives on AI’s future role in language education. Many participants strongly believe AI has the potential to enhance teaching and learning processes, viewing it as a valuable asset for improving educational practices. However, there is a clear desire for balance and control in the use of AI tools. They stressed the importance of maintaining a critical perspective on AI integration, advocating approaches that ensure AI complements traditional teaching methods rather than replacing the essential human elements of education.

Table 3

Future-Related Expectations

Theme	f	Representative Excerpt
Optimism about AI Integration	6	<i>“When I become a teacher, I will definitely use AI to get some help.” (Adam)</i>
Desire for Balance and Control	3	<i>“We should use AI carefully to ensure it enhances learning without overshadowing it.” (Aria)</i>

Participants conveyed a blend of optimism and caution regarding the future role of AI in language education. Many expressed strong beliefs in AI’s potential to enhance teaching and learning, viewing it as a valuable asset for improving educational practices. This optimism was reflected in proactive attitudes toward integrating AI into their future methodologies, with the expectation that it would facilitate dynamic and engaging learning experiences. Adam remarked, “When I become a teacher, I will definitely use AI to get some help. I also think everyone should think the same and be open to new things because when we have such a great tool to make everything easier and time efficient for us, it doesn’t seem sensible not to take advantage of it.” Similarly, Eli noted, “AI can provide many creative solutions that we can use in our lessons.” These reflections underscore participants’ enthusiasm for leveraging AI to develop innovative instructional methods and improve student outcomes.

Alongside this optimism, participants expressed a clear desire for balance and control in the use of AI tools. They emphasized the importance of maintaining a critical perspective on AI integration, advocating for approaches that ensure AI complements rather than replaces traditional teaching methods. Adam cautioned, “We should always be careful and take control; we should never let AI decide what to teach or how to teach. We should always make some changes to make it more compatible for our students.” Echoing this sentiment, Oscar asserted, “AI should not replace the human

element in teaching.” These views highlight the need to preserve human involvement and essential pedagogical values in education, particularly the emotional connection between teachers and students, which is critical for effective language learning.

Comparative Insights with Traditional Methods

Participants provide insightful comparisons between AI and traditional teaching methods, recognizing both the advantages and drawbacks of each. The theme of enhanced creativity and efficiency is prominent, with many participants highlighting how AI broadens the range of instructional strategies available to educators. However, they also underscore the irreplaceable value of human interaction and adaptability inherent in traditional teaching. The emotional intelligence and personal engagement teachers bring to the classroom are crucial for fostering student motivation and building effective learning relationships. This section illustrates the need for a balanced approach that combines the strengths of AI and traditional methods to achieve optimal educational outcomes.

Table 4

Comparative Insights with Traditional Methods

Theme	f	Representative Excerpt
Creativity and Efficiency	6	<i>“AI can be more creative than humans, but we can customize according to our students’ needs.” (Alex)</i>
Human Interaction and Adaptability	4	<i>“If we rely too heavily on technology, we might miss out on unique, genuine learning experiences.” (Aria)</i>

Participants provided comparative perspectives on the roles of AI and traditional teaching methods, highlighting both advantages and challenges. A prominent theme was AI’s potential to enhance creativity and efficiency. Many participants praised AI for broadening the range of instructional strategies and generating innovative lesson ideas that complement traditional methods. For instance, Ruby remarked, *“AI is faster and offers more varied ideas than I would come up with on my own,”* while Freya noted, *“AI provides different and interesting activities that are difficult to find using traditional methods.”* Adam similarly emphasized, *“The variety of resources available through AI makes it easier to engage students in diverse ways.”* These reflections underscore how AI can modernize and enrich education.

However, participants also stressed the enduring value of human interaction and adaptability in traditional teaching. They viewed personal engagement and emotional intelligence as vital for fostering student motivation, building relationships, and addressing individual needs. Aria cautioned, *“If we rely too heavily on technology, we might miss out on unique, genuine learning experiences,”* and Kason asserted, *“No AI can replace the empathy and understanding a teacher brings to the classroom.”* Adam echoed these sentiments, emphasizing, *“The emotional connection we build with our students is vital for their success in learning languages.”* These insights highlight the irreplaceable role of teachers in creating positive, supportive learning environments.

This analysis illustrates the complexity of participants' perceptions regarding AI integration in language education. While the benefits of AI, such as enhanced efficiency, creativity, and adaptability, are widely acknowledged, concerns about reliability, cultural sensitivity, over-reliance, and ethical implications temper this optimism. Participants' reflections reveal a nuanced perspective, advocating for a balanced implementation of AI that preserves the essential human elements of teaching and learning.

Discussion and Conclusion

This study, echoing prior findings (Al-khresheh, 2024; Gao et al., 2024), shows that prospective teachers hold mixed opinions about AI integration in education. Participants acknowledged that AI could enhance various aspects of their teaching by providing personalized learning (Al-khresheh, 2024), thereby making the learning process more effective by adapting to students' diverse needs. Additionally, these AI tools allow teachers to dedicate more attention to essential teaching practices and student engagement by saving time on tasks such as lesson planning and providing feedback (Kasneci et al., 2023). Since teachers spend less time on administrative tasks, they can develop more engaging and thoughtful lessons, ultimately enriching the learning experience. AI tools can be used to design materials and activities (Mohamed, 2024) that align with curriculum goals and students' interests. AI tools can also create targeted materials that address specific learning gaps or meet learners' needs, thereby enhancing learning outcomes. These results suggest that the conscious integration of AI technologies can enhance the language-teaching process. Furthermore, participants' positive beliefs indicate that prospective teachers recognize AI's potential and are willing to incorporate AI into their teaching practices. It can be inferred that they are ready to embrace new technologies to enhance student engagement and learning outcomes. Additionally, by staying up to date with technology, they can ensure their teaching methods are effective and meet the needs of a digital world, providing a better learning experience for their students.

However, despite their overall positive beliefs, some participants expressed concerns about AI integration in education. Their views primarily concerned the reliability of AI-generated content, the risks associated with over-reliance on AI, data privacy issues (Gao et al., 2024), and the technology's limitations in capturing cultural nuances (Al-khresheh, 2024). Evidently, without sufficient validation and transparency regarding AI-generated content, teachers may struggle to fully trust the technology. This is crucial because if teachers do not understand how AI systems generate content, they may be reluctant to utilize them in their classes. As Hınız (2026) states, to overcome teachers' hesitation in integrating AI tools, it is crucial to establish clear policies governing their use. Addressing teachers' ethical concerns can prevent negative outcomes and foster a successful integration of AI into language classes. It is also possible that a lack of familiarity with AI applications (Alwaqdani, 2025) can significantly influence their attitudes toward AI integration. Addressing this unfamiliarity through training is essential for helping them understand and use these tools to improve teaching and learning. Training could reduce prospective teachers' apprehensions about AI and make them more comfortable with its integration (Kohnke et al., 2023). Additionally, incorporating AI-focused lesson planning and microteaching

activities into teacher education programs provides pre-service teachers with invaluable insights into the benefits of AI. This approach fosters a clear understanding of AI's role and prepares prospective teachers to use AI effectively in their future classrooms. Moreover, it is evident that AI can improve language skills; however, teachers still need to provide cultural context to help students fully understand the language. Teachers should act as cultural mediators in the classroom, helping students navigate and understand the cultural references essential to learning a new language. Integrating AI into skill development while relying on teachers for cultural insights makes language education a more comprehensive process. This holistic approach enhances the authenticity of language learning, enabling students to communicate more effectively and confidently in real-world situations.

This study also found that pre-service teachers are willing to integrate AI tools in their future classes (Yetkin & Özer-Altinkaya, 2024) due to their potential in language education. They mentioned that AI can enhance traditional teaching methods by offering innovative approaches, such as interactive activities (Fathi & Rahimi, 2026) or feedback (Mahapatra, 2024). However, they highlighted the importance of a balanced teaching approach that uses AI to supplement traditional methods. Due to the lack of human interaction (ElSayary, 2024), AI-based instruction cannot fully replace the emotional and social dynamics of teacher-student relationships. Therefore, it is essential to balance AI with human interaction to maximize the benefits of AI-based instruction. Participants also expressed concerns about the reliability of AI-generated content; as a result, they may need to review and verify the accuracy of AI outputs, correcting any inaccuracies or misunderstandings. This approach encourages teachers to engage students in critical thinking about AI outputs rather than passively accepting them. This method enhances students' language skills and equips them for a future where AI literacy and critical thinking are crucial. It can be hypothesized that combining AI with traditional instruction may enhance the advantages of both approaches.

Overall, the current study enhances our understanding of the crucial role of supportive training (Hojeij et al., 2025; Yetkin & Özer-Altinkaya, 2024) in improving the effectiveness of AI-integrated education. Providing courses on the use of AI tools in language classes within teacher education programs is essential. This ensures that prospective teachers can confidently implement these tools in their classrooms. By providing the necessary resources and ongoing support, we can address the challenges of implementing AI in education and better prepare prospective teachers to integrate it effectively into their classrooms. Collaboration among teachers, technologists, policymakers, and educational institutions (Alwaqdani, 2025) is also essential for developing clear policies that promote ethical AI usage, protect data privacy, and foster a culture of innovation in teaching practices. While AI provides numerous benefits for improving language education, the findings indicate that the human element, such as emotional connection, cultural understanding, and personal interaction, cannot be entirely replaced by technology. Therefore, AI should be viewed as a supportive tool (Alwaqdani, 2025; Tolstyykh & Oshchepkova, 2024) that complements and enhances teachers' capabilities, allowing them to concentrate more on personalized instruction and student engagement.

Implications and Limitations

This study highlights the potential of AI as a complementary tool in language education, enhancing learning through personalized approaches and interactive activities while preserving students' critical thinking skills under teacher guidance (Dai & Liu, 2024). The findings offer actionable insights for teacher education programs, including integrating AI tools into curriculum design, opportunities for micro-teaching or simulated practice to reflect on AI's pedagogical affordances, and tasks that promote critical AI literacy among learners. Institutional and policy support is also essential, with structured professional development, clear guidelines for ethical and balanced AI use, and mechanisms to monitor effectiveness. While these implications were conducted in a Turkish higher education context, they may vary across cultural and institutional settings, underscoring the need for context-sensitive approaches and cross-cultural research to inform globally relevant strategies for AI integration.

Despite its contributions, this study has several limitations. The short duration of data collection may not fully capture changes in participants' attitudes and practices toward AI integration over time, and reliance on self-reported data could limit the accuracy of insights into actual teaching practices. Future research could address these limitations by employing longitudinal designs and incorporating objective measures, such as classroom observations or performance assessments, to provide a more comprehensive evaluation of AI's impact on language learning. Recognizing these limitations underscores the importance of ongoing research and of providing adequate training and support for educators to implement AI tools effectively.

Acknowledgements

None.

Statement of Responsibility

RY: conceptualization, formal analysis, data curation, and writing-original draft preparation, resources, writing-review, and editing. ZOA: methodology, validation, resources, writing-review, editing, and supervision. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The author(s) reported no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

Author Bios:

Ramazan Yetkin, PhD, is a faculty member in the Department of Foreign Language Education at Niğde Ömer Halisdemir University. His research primarily focuses on the psychology of language teaching and learning, with a particular emphasis on negative emotions such as anxiety and boredom, investigated through the lens of Complex Dynamic Systems Theory (CDST). His work mainly centers on emotions in language teacher education, with a nuanced focus on affective experiences in AI-enhanced classrooms and applications. His recent studies have been published in highly prestigious journals, including *BMC Psychology*, *British Educational Research Journal*, *E-Learning and Digital Media*, *European Journal of Education*, *Moderna Språk*, *Pedagogies: An International Journal*, and *SAGE Open*.

Zekiye Özer-Altinkaya, PhD, is an assistant professor in the English Language Teaching Department at Niğde Ömer Halisdemir University. She earned her MA and PhD degrees from Hacettepe University. Her areas of interest include individual differences, emotion, and positive psychology in SLA, with a growing focus on AI-oriented studies in language education. Her research has appeared in several high-prestige journals, including *British Educational Research Journal*, *E-Learning and Digital Media*, *European Journal of Education*, *BMC Psychology*, and *Pedagogies: An International Journal*.

References

- Al-khresheh, M. H. (2024). Bridging technology and pedagogy from a global lens: Teachers' perspectives on integrating ChatGPT in English language teaching. *Computers and Education: Artificial Intelligence*, 6, 100218. <https://doi.org/10.1016/j.caeai.2024.100218>
- Alexander, K., Savvidou, C., & Alexander, C. (2023). Who wrote this essay? Detecting AI-generated writing in second language education in higher education. *Teaching English with Technology*, 23(2), 25-43. <https://doi.org/10.56297/BUKA4060/XHLD5365>
- Alvarez, L., Ortoleva, G., Sutter Widmer, D., Fritz, M., Bugmann, J., Boéchat-Heer, S., & Ramillon, C. (2024). Future teachers' beliefs about generative AI: Assessing technology acceptance as students or as aspiring professionals. *Journal of Technology and Teacher Education*, 32(3), 383–408. <https://www.learntechlib.org/primary/p/224377/>
- Alwaqdani, M. (2025). Investigating teachers' perceptions of artificial intelligence tools in education: Potential and difficulties. *Education and Information Technologies*, 30, 2737–2755. <https://doi.org/10.1007/s10639-024-12903-9>
- Arslan, S. (2025). English-as-a-foreign language university instructors' perceptions of integrating artificial intelligence: A Turkish perspective. *System*, 131, 103680. <https://doi.org/10.1016/j.system.2025.103680>
- Azungah, T. (2018). Qualitative research: Deductive and inductive approaches to data analysis. *Qualitative Research Journal*, 18(4), 383–400. <https://doi.org/10.1108/QRJ-D-18-00035>
- Babanoğlu, M. P., Karataş, T. Ö., & Dündar, E. (2025). Envisioning the future of AI-assisted EFL teaching and learning: Conceptual representations of prospective teachers. *Sage Open*, 15(2). <https://doi.org/10.1177/21582440251341590>
- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing*, 57, 100745. <https://doi.org/10.1016/j.asw.2023.100745>
- Bobkina, J., & Romero, E.D. (2026). Integrating AI in EFL education: Empowering pre-service teachers with skills, perspectives, and innovative classroom strategies. In Durak, G., Çankaya, S., Sharples, M. (Eds.), *Generative AI in Education*. Springer. https://doi.org/10.1007/978-981-95-4871-2_17
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>

- Cennetkusu, N. G. (2026). EFL teachers' attitudes toward artificial intelligence in language teaching: A mixed-methods study in Türkiye. *Social Sciences & Humanities Open*, 13, 102580. <https://doi.org/10.1016/j.ssaho.2026.102580>
- Choi, S., Jang, Y., & Kim, H. (2023). Influence of pedagogical beliefs and perceived trust on teachers' acceptance of educational artificial intelligence tools. *International Journal of Human-Computer Interaction*, 39(4), 910-922. <https://doi.org/10.1080/10447318.2022.2049145>
- Chounta, I. A., Bardone, E., Raudsep, A., & Pedaste, M. (2022). Exploring teachers' perceptions of artificial intelligence as a tool to support their practice in Estonian K-12 education. *International Journal of Artificial Intelligence in Education*, 32(3), 725-755. <https://doi.org/10.1007/s40593-021-00243-5>
- Dai, K., & Liu, Q. (2024). Leveraging artificial intelligence (AI) in English as a foreign language (EFL) classes: Challenges and opportunities in the spotlight. *Computers in Human Behavior*, 159, 108354. <https://doi.org/10.1016/j.chb.2024.108354>
- Derinalp, P., & Halife, M. (2025). Pre-service English as a foreign language teachers' attitudes toward artificial intelligence. *Kuramsal Eğitimbilim Dergisi [Journal of Theoretical Educational Sciences]*, 18(3), 609-629. <http://doi.org/10.30831/akukeg.1644354>
- ElSayary, A. (2024). An investigation of teachers' perceptions of using ChatGPT as a supporting tool for teaching and learning in the digital era. *Journal of Computer Assisted Learning*, 40(3), 931-945. <https://doi.org/10.1111/jcal.12926>
- Emerson, R. W. (2015). Convenience sampling, random sampling, and snowball sampling: How does sampling affect the validity of research? *Journal of Visual Impairment & Blindness*, 109(2), 164-168. <https://doi.org/10.1177/0145482X1510900215>
- Fathi, J., & Rahimi, M. (2026). Utilising artificial intelligence-enhanced writing mediation to develop academic writing skills in EFL learners: A qualitative study. *Computer Assisted Language Learning*, 39(1-2), 263-302. <https://doi.org/10.1080/09588221.2024.2374772>
- Fathi, J., Rahimi, M., & Derakhshan, A. (2024). Improving EFL learners' speaking skills and willingness to communicate via artificial intelligence-mediated interactions. *System*, 121, 103254. <https://doi.org/10.1016/j.system.2024.103254>
- Gao, Y., Wang, Q., & Wang, X. (2024). Exploring EFL university teachers' beliefs in integrating ChatGPT and other large language models in language education: A study in China. *Asia Pacific Journal of Education*, 44(1), 29-44. <https://doi.org/10.1080/02188791.2024.2305173>
- Hartono, W. J., Nurfitri, N., Ridwan, R., Kase, E. B., Lake, F., & Zebua, R. S. Y. (2023). Artificial intelligence (AI) solutions in English language teaching: Teachers-students' perceptions and experiences. *Journal on Education*, 6(1), 1452-1461.
- Hıncız, G. (2026). A year of generative AI in English language teaching and learning - A case study. *Journal of Research on Technology in Education*, 58(2), 291-311. <https://doi.org/10.1080/15391523.2024.2404132>

- Hojeij, Z., Kuhail, M. A., & ElSayary, A. (2025). Investigating in-service teachers' views on ChatGPT integration. *Interactive Technology and Smart Education*, 22(4), 548–573. <https://doi.org/10.1108/ITSE-04-2024-0094>
- Huang, F., Wang, Y., & Zhang, H. (2024). Modelling generative AI acceptance, perceived teachers' enthusiasm and self-efficacy to English as a foreign language learners' well-being in the digital era. *European Journal of Education*, 59, e12770. <https://doi.org/10.1111/ejed.12770>
- Hwang, G. J., Xie, H., Wah, B. W., & Gašević, D. (2020). Vision, challenges, roles and research issues of artificial intelligence in education. *Computers and Education: Artificial Intelligence*, 1, 100001. <https://doi.org/10.1016/j.caeai.2020.100001>
- Karaduman, C. (2025). Pre-service EFL teachers' perceived AI literacy and competency: The integration of ChatGPT into English language teacher education. *Sage Open*, 15(3). <https://doi.org/10.1177/21582440251379712>
- Karataş, F., Abedi, F. Y., Ozek Gunyel, F., Karadeniz, D., & Kuzgun, Y. (2024). Incorporating AI in foreign language education: An investigation into ChatGPT's effect on foreign language learners. *Education and Information Technologies*, 29, 19343–19366. <https://doi.org/10.1007/s10639-024-12574-6>
- Kartal, G. (2024). ChatGPT as a personalized professional development tool: Voices of English teachers. In Z. Çetin Köroğlu & A. Çakır (Eds.), *Fostering foreign language teaching and learning environments with contemporary technologies* (pp. 48–69). IGI Global.
- Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., ... Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Kerr, R. C., & Kim, H. (2025). from prompts to plans: A case study of pre-service EFL teachers' use of generative AI for lesson planning. *English Teaching*, 80(1), 95-118. <https://doi.org/10.15858/engtea.80.1.202503.95>
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Exploring generative artificial intelligence preparedness among university language instructors: A case study. *Computers and Education: Artificial Intelligence*, 5, 100156. <https://doi.org/10.1016/j.caeai.2023.100156>
- Ma, Q., Crosthwaite, P., Sun, D., & Zou, D. (2024). Exploring ChatGPT literacy in language education: A global perspective and comprehensive approach. *Computers and Education: Artificial Intelligence*, 7, 100278. <https://doi.org/10.1016/j.caeai.2024.100278>
- Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Smart Learning Environments*, 11, 9. <https://doi.org/10.1186/s40561-024-00295-9>
- Mohamed, A. M. (2024). Exploring the potential of an AI-based chatbot (ChatGPT) in enhancing English as a Foreign Language (EFL) teaching: Perceptions of EFL

- faculty members. *Education and Information Technologies*, 29(3), 3195-3217. <https://doi.org/10.1007/s10639-023-11917-z>
- Özer-Altinkaya, Z., & Yetkin, R. (2025). Exploring pre-service English language teachers' readiness for AI-integrated language instruction. *Pedagogies: An International Journal*, 20(4), 584-600. <https://doi.org/10.1080/1554480X.2025.2451299>
- Pack, A., & Maloney, J. (2024). Using artificial intelligence in TESOL: Some ethical and pedagogical considerations. *TESOL Quarterly*, 15(1), 1007-1018. <https://doi.org/10.1002/tesq.3320>
- Prestridge, S., Fry, K., & Kim, E. J. A. (2025). Teachers' pedagogical beliefs for Gen AI use in secondary school. *Technology, Pedagogy and Education*, 34(2), 183-199. <https://doi.org/10.1080/1475939X.2024.2428606>
- Punar Özçelik, N., & Yangın Ekşi, G. (2024). Cultivating writing skills: The role of ChatGPT as a learning assistant—a case study. *Smart Learning Environments*, 11, 10. <https://doi.org/10.1186/s40561-024-00296-8>
- Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14, 1255594. <https://doi.org/10.3389/fpsyg.2023.1255594>
- Shafiee Rad, H. (2024). Revolutionizing L2 speaking proficiency, willingness to communicate, and perceptions through artificial intelligence: A case of Speeko application. *Innovation in Language Learning and Teaching*, 18(4), 364-379. <https://doi.org/10.1080/17501229.2024.2309539>
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: Assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, 14, 1260843. <https://doi.org/10.3389/fpsyg.2023.1260843>
- Su, Y., Luo, M., & Zhong, C. (2025). To chat or not: Pre-service English teachers' perceptions of and needs in chatbot's educational application. *Sage Open*, 15(1). <https://doi.org/10.1177/21582440251321853>
- Sui, C.-J., & Chang, C.-Y. (2026). Generative AI and education: Exploring the interplay between teachers' epistemic beliefs and self-regulated learning. *Educational Technology & Society*, 29(3), 34-50. [https://doi.org/10.30191/ETS.202607_29\(3\).RP03](https://doi.org/10.30191/ETS.202607_29(3).RP03)
- Tanik Önal, N., Önal, N., & İlhan, A. G. (2026). Artificial intelligence in early childhood classrooms: Insights from in-service and pre-service teachers. *European Early Childhood Education Research Journal*. <https://doi.org/10.1080/1350293X.2025.2610619>
- Tolstyykh, O. M., & Oshchepkova, T. (2024). Beyond ChatGPT: Roles that artificial intelligence tools can play in an English language classroom. *Discover Artificial Intelligence*, 4, 60. <https://doi.org/10.1007/s44163-024-00158-9>
- Wei, L. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, 1261955. <https://doi.org/10.3389/fpsyg.2023.1261955>

- Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, 28(11), 13943-13967. <https://doi.org/10.1007/s10639-023-11742-4>
- Yang, H., Kim, H., Lee, J. H., & Shin, D. (2022). Implementation of an AI chatbot as an English conversation partner in EFL speaking classes. *ReCALL*, 34(3), 327–343. <https://doi.org/10.1017/S0958344022000039>
- Yetkin, R. (2026). Redefining teacher–technology relationships: AI-driven platforms in EFL classrooms through the eyes of pre-service teachers. *European Journal of Education*, 61(1), e70453. <https://doi.org/10.1111/ejed.70453>
- Yetkin, R., & Özer-Altinkaya, Z. (2024). AI in the language classroom: Insights from pre-service English teachers. *E-Learning and Digital Media*. <https://doi.org/10.1177/20427530241267011>
- Yuan, L., & Liu, X. (2024). The effect of artificial intelligence tools on EFL learners' engagement, enjoyment, and motivation. *Computers in Human Behavior*, 162, 108474. <https://doi.org/10.1016/j.chb.2024.108474>
- Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. *Computers and Education: Artificial Intelligence*, 2, 100025. <https://doi.org/10.1016/j.caeai.2021.100025>
- Zou, B., Du, Y., Wang, Z., Chen, J., & Zhang, W. (2023). An investigation into artificial intelligence speech evaluation programs with automatic feedback for developing EFL learners' speaking skills. *Sage Open*, 13(3). <https://doi.org/10.1177/21582440231193818>



This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0). For further information, you can refer to <https://creativecommons.org/licenses/by-nc-sa/4.0/>