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Rethinking EFL teachers' readiness for AI integration in online language teaching

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Abstract

The integration of artificial intelligence (AI) into online language teaching has gained increasing attention due to its potential to enhance instructional efficiency, provide real-time feedback, and support personalized learning in EFL contexts. However, previous research has typically focused on teachers' perceptions, readiness or challenges in using AI separately from one another, resulting in a fragmented picture of AI adoption. The present study investigates EFL teachers' understanding of AI, the context-specific variables affecting their readiness for deploying it, and the barriers to incorporating it in online language teaching. Using semi-structured interviews with nine EFL teachers, a qualitative case study design was used, and analysis of the data was by means of thematic methods. Drawing upon the Technology Acceptance Model (TAM) and Technological Pedagogical Content Knowledge (TPACK) framework, the study aims to understand teachers' adoption and integration of AI Tools. The results show that teachers tend to perceive AI as a learning assistant and efficiency-oriented tool, which represents autonomous and flexible modes of learning. However, several barriers persist, including limited conceptual understanding of AI, difficulties in selecting appropriate tools, pedagogical and ethical concerns regarding student over-reliance and academic integrity, and technical constraints. The study highlights important pedagogical implications, suggesting the need for targeted professional development, clearer instructional guidelines, and institutional support to promote effective and responsible AI integration in EFL classrooms.

Keywords: Artificial intelligence; Digital literacy; EFL teachers; Online language teaching; Teacher readiness

1. Introduction

The rapid development of AI has reshaped online language teaching, particularly in the post-pandemic period, when digital modes of instruction have become increasingly prevalent. AI-driven tools have been introduced to support instructional efficiency through functions such as real-time feedback, automated assistance, and personalized learning in English as a Foreign Language (EFL) contexts. Rather than replacing teachers, AI is increasingly conceptualized as a tool that complements teachers' pedagogical work. For example, Moorhouse et al. (2023) and Göksel (2021) argue that whether AI improves effectiveness in teaching, the teachers remain at the center of education whereas Arabshahi et al. (2024) emphasizing its role in achieving learner engagement by means of scalable instructional support. Similarly, Sun (2023) conceptualizes AI as a sensemaking partner that can support teachers' pedagogical decision-making. These perspectives suggest that the educational value of AI depends not only on its technological affordances but also on how teachers understand, evaluate, and incorporate these tools into their instructional practices.

Despite these affordances, the successful integration of AI depends largely on teachers' readiness. Erol et al. (2025) and Marić and Petković (2024) highlight the importance of teachers' technological competence, prior experience, knowledge, and self-efficacy in developing readiness for AI integration. Notably, digital literacy and the power to critically evaluate AI tools are essential for effective implementation and responsible technology use in language education (Alam et al., 2024; Asio, 2027; Kildė, 2024). In addition, teachers' ability and motivation to adopt AI retraining for their professional development is greatly affected by institutional support (Alshahrani et al., 2024; Kristiawan et al., 2024). However, most previous studies have examined these factors in isolation, giving limited attention to how they interact within specific teaching contexts.

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The integration of AI also presents substantial challenges. Previous studies have identified barriers including limited technological competence, inadequate professional training, difficulties in evaluating AI-generated content, and ethical concerns related to issues such as algorithmic bias and data privacy (Alam et al., 2024; Jiang & Meng, 2025; Kildė, 2024). Such challenges indicate that positive perceptions of AI do not necessarily translate into straightforward or effective classroom implementation. Teachers may perceive AI as useful while simultaneously encountering constraints that shape whether, how, and to what extent they incorporate AI into their teaching. Examining these potentially interconnected dimensions is therefore important for understanding AI adoption beyond simple measures of acceptance.

To address this gap, the present study examines EFL teachers' perceptions, readiness, and challenges in relation to their adoption and use of AI in online language teaching. The study draws on the TAM and the TPACK framework as complementary perspectives. TAM helps explain teachers' perceptions of AI and their willingness to use it, while TPACK provides a pedagogical perspective for examining how teachers integrate technological knowledge with pedagogical and content knowledge. Bringing these perspectives together enables the study to examine not only whether teachers accept AI, but also how their perceptions, professional knowledge, and contextual challenges shape its pedagogical use. In doing so, the study seeks to contribute a more contextually grounded understanding of AI integration in EFL teaching by identifying how technology acceptance and pedagogical knowledge operate together in teachers' instructional decision-making. Accordingly, the study addresses the following research questions:

RQ 1) What are EFL teachers' perceptions of AI integration in online language teaching?

RQ 2) What factors shape EFL teachers' readiness to integrate AI into online language teaching?

RQ 3) What challenges do EFL teachers encounter when integrating AI into online language teaching?

2. Literature Review

2.1. AI in Education

AI in Education (AIED) is the intentional use of AI to support teaching, learning, and educational administration with the aim at improving learning outcomes and or facilitating personalized instruction. AI, as defined in the literature, covers a broad range of abilities (i.e., data analytics, intelligent tutoring systems, adaptive learning platforms, automated assessment, chatbots and applications of learning analytics) across instructional and administrative contexts (Chen et al., 2020; Ji & Yang, 2023). In the context of online language teaching, there are various AI tools that can contribute to not only provide an interactive learning environment with efficient real-time feedback but also aid in personalized and individualized language development. Nonetheless, in spite of the generally acknowledged promise of AI in education, definitions, dimensions and instructional implications remain hotly contested among scholars including consideration as to whether a greater emphasis should be placed on technological automation or a continued pre-eminence for teachers who help facilitate meaningful experiences (Alshahrani et al., 2024; Jain & Raghuram, 2023).

AIED is operationally defined, in a generally agreed sense, as computing systems and algorithms that simulate selected parts of human learning adaptation and decision making for enhancing teaching, learning and educational management (Chen et al., 2020). Academics working on AI's impact and role in education see it as a menagerie of interrelated technologies that act as intelligent tutoring systems, natural language processing, adaptive learning environments, automated feedback and assessment capabilities and learning analytics to facilitate personalized and adaptable learning experiences (Chen et al., 2020; Munir et al., 2022). As a result, these AI-enabled tools could help teachers with timely feedback, learner progress tracking and personalized instruction in online language teaching. But scholars also argue that AI's role in education should be viewed through a socio-technical lens, one which more clearly recognizes its potential for pedagogy but highlights some important caveats around ethical considerations, data privacy, and equity of access specifically aimed towards higher education environments (Alshahrani et al.,

2024).

AI plays in educational environments, especially assisting with administrative and instructional tasks. AI can automate operational work (e.g., marking, giving feedback, and keeping records), so that instructors can spend more time on teaching practices (Chen et al., 2020). More specifically, instructional applications of AI-powered tools encompass intelligent tutoring systems, virtual tutors, and conversational agents that can both provide automated feedback to learners as well as facilitate their interaction within digital learning contexts (Nguyen et al., 2023; Yang, 2024). Moreover, AI can help educators to monitor student performance, identify students at risk and make decisions based on analytics data to implement effective teaching principles in the online language learning context.

Among the most notable effects of AI in education is personalized learning. AI systems can personalize learning pathways based on individual students' needs and progress by using automated learner profiling, adaptive content sequencing, and data-driven recommendations (Castro et al., 2024). Moreover, adaptive learning platforms and intelligent tutoring systems offer personalized feedback and scaffolding for learners to advance through at their pace (Ji & Yang, 2023; Nadhifah et al., 2024). According to scholars, although technological infrastructure is paramount for the successful integration of AI tools into teaching and learning practices, so too are items such as teacher readiness for AI-enabled pedagogies, ethical governance associated with technology use in educational contexts, as well as concerns related to data privacy, justice and equity in access across information-age paradigms.

2.2. AI in English Language Teaching

AI has already become an integral part of English Language Teaching (ELT) to improve the delivery of instruction, promote learner engagement and adapt assessment practices in tech-mediated environments. AI-enabled tools can cater to the unique needs of learners, such as offering personalized learning experiences and immediate feedback on performance while relieving teachers of menial tasks (Crompton et al., 2024; Kartal & Yeşilyurt, 2024; Khan & Mishra, 2024) and leading to more effective instruction while maximizing human power in the classroom space. AI applications such as chatbots, intelligent tutoring systems, adaptive learning platforms, and automated feedback systems can provide scalable support in online language teaching contexts both for learners and educators. However, teachers' readiness to use these technologies in pedagogically useful ways is a huge factor in whether they will be adopted effectively.

Some of the many AI tools in ELT that have received a lot of attention are conversational agents and chatbots that allow for practice with language and immediate feedback. These tools allow learners to take part in simulated dialogues, practice their pronunciation and get instant corrective feedback with the use of technologies like natural language processing and speech recognition (Fitria, 2021; Kristiawan et al., 2024; Sharadgah & Sa'di, 2022).

Further developing the use of AI in language development within online ELT is through automated feedback systems and adaptive learning platforms. These tools enable immediate feedback on learners' writing, grammar and pronunciation while also adjusting task difficulty and learning pathways to suit individual performance data (Crompton et al., 2024; Sharadgah & Sa'di, 2022). Research has indicated improvements in both linguistic accuracy and learner engagement when AI-generated feedback is integrated within a greater framework of teacher guidance and instructional scaffolding.

2.3. AI Integration in Online Language Teaching

The integration of AI into online language teaching is an innovative transition in EFL pedagogy that potentially enhances personalized learning with real-time feedback, automated assessment, and scalable instructional support. Previous studies portray these AI technologies more as augmentative tools that will facilitate rather than replace teachers' roles in designing and delivering language lessons (Arabshahi et al., 2024; Göksel, 2021; Moorhouse et al., 2023). In the evolving digital landscape of post-pandemic education, researchers highlight three key domains of

AI application as learner-facing AI that personalizes practice and feedback, teacher-facing AI that assists with lesson planning and assessment, and system-level AI integrated into online learning ecosystems such as learning management systems to support data-driven teaching decisions.

While AI holds great promise, its effective integration into the online EFL classroom is heavily dependent on teachers' readiness, professional competence and pedagogical understanding of these technologies. Scholars emphasise, however, that AI should be approached as a sensemaking partner aiding educators to enhance instructional efficiency and responsiveness (Moorhouse et al., 2023; Sun, 2023) rather than something in place of human expertise. In addition, effective AI integration must involve ongoing professional development, institutional support, and intentional ethical frameworks that outline data privacy, algorithmic bias, and responsible technology use.

2.4. Teacher Readiness for AI Integration

The term teacher readiness in educational technology signifies the level of preparedness among educators to embrace, modify, and integrate technological tools optimally for achieving instructional objectives. Within the domain of AI integration in online language teaching, readiness is most often discussed as a multidimensional construct-involving teachers' knowledge, skills, attitudes and self-efficacy around the use of AI tools (Erol et al., 2025; Marić & Petković, 2024). Knowledge (what you know) refers to the understanding of how AI can be used in various applications and its potential for pedagogy, while skills (what you do with what you know) involve applying these tools in instructional design and assessment. Attitudes and self-efficacy represent the beliefs of teachers, as well as their confidence in using AI effectively. These factors contribute to teachers' readiness and ability to integrate AI meaningfully in online EFL teaching.

2.5. Components of AI Readiness for Teachers

Technological knowledge and digital literacy represent a fundamental dimension of EFL teachers' readiness for AI integration in online language teaching. These expectations go beyond the knowledge of basic computing, requiring teachers to be familiar with core concepts related to AI such as data literacy and critical assessment of tools powered by AIs designed for instructional use. Research suggests that how well AI is adopted depends heavily on teachers' digital literacy and whether they can access quality targeted professional development which allows them to choose the right AI applications, appropriately interpret what kinds of outputs AI produces, and protect student data privacy (Alam et al., 2024; Erol et al., 2025; Kildė, 2024). When teachers have enough technological competencies, they are capable of better matching AI-tools to instructional aims, supporting differentiated learning and overseeing their students progress in tech-facilitated language education contexts.

2.5.1. Pedagogical readiness to integrate AI tools

Pedagogical readiness is another crucial component of teachers' preparedness for AI integration in online EFL instruction. It encompasses teachers' ability to design and implement learning activities that effectively harness AI for personalized instruction, timely feedback, and the development of higher-order language skills. There are known ways in which AI can facilitate other pedagogical initiatives, via functions like adaptive feedback, content personalization and automated assessment; however, this is linked to educators' knowledge of pedagogy and whether they possess the ability to array AI tools with their plans for curriculum outcomes and assessments (Karan & Angadi, 2025; Kerneža & Zemljak, 2023). As such, professional development for preservice and in-service teachers should focus on pedagogical decision-making, ethical considerations, and practical strategies to directly use AI products during online language teaching, applied in meaningful and equitable ways.

2.5.2. Teachers' attitudes toward AI technologies

Teachers' attitudes toward AI technologies also play a significant role in shaping their readiness to integrate AI into online language teaching. Attitudes include what teachers believe about the utility, validity and risks of AI in an educational context. Research consistently indicates that the

more positive an educator's attitude towards AI is, the higher his or her self-efficacy will be and the greater their willingness to experiment with innovative technologies in teaching (Erol et al., 2025; Jiang & Meng, 2025). On the other hand, issues regarding data privacy, algorithmic bias and potential abuse can deter that use by teachers of AI tools.

2.6. Factors Influencing Teachers' AI Readiness

2.6.1. Individual factors

Individual factors shaping teachers' readiness to adopt AI in the classroom include their digital literacy, teaching experience, and technological confidence. Developing digital literacy helps teachers assess AI tools, be aware of data privacy concerns, and analyze outputs produced by AI to inform instruction (Alam et al., 2024; Erol et al., 2025; Kildė, 2024). Thus, teachers with stronger digital competencies are better equipped to choose appropriate AI applications for students and to adapt instructions and track learner progress in AI-enriched contexts. Such experience may further impact readiness, as seasoned educators have pedagogical expertise that can help them integrate technology into their instruction yet also require open-mindedness to innovation. Furthermore, heightened technological self-efficacy is associated more positive attitudes toward AI as well as greater willingness to experiment with AI-augmented teaching practices.

2.6.2. Professional development and training

AI-related training and continuous professional development are essential for strengthening EFL teachers' readiness to integrate AI in online language teaching. Research shows that well-designed training programs can work effectively to boost teachers' understanding of AI concepts, enhance their ability to interpret AI outputs and support pedagogical use of AI tools with due consideration for issues like data privacy and ethical considerations (Erol et al., 2025; Kildė, 2024; Kristiawan et al., 2024). Effective professional development goes beyond that, and also teaches teachers how to transfer AI brokered learning activities into their classroom practice and integrate AI into assessment and instruction.

2.6.3. Institutional support

Institutional support is a critical factor influencing EFL teachers' readiness for AI integration in online language teaching. This encompasses administrative policies, technological infrastructure and a change-ready organizational culture. Research suggests that transparent institutional policies and supportive leadership can bolster teachers' confidence by providing legitimacy for professional development, opportunities (time and space) to experiment with AI tools, and frameworks for data governance and ethical use of AI (Alshahrani et al., 2024; Jiang & Meng, 2025; Kildė, 2024). That is, access to reliable infrastructure like stable internet connectivity, appropriate hardware and secure AI platforms directly impacts teachers' ability to leverage AI effectively.

The literature suggests that teachers' readiness for AI integration is shaped by multiple interconnected factors rather than a single condition. These include teachers' perceptions of AI and its usefulness, technological competence and prior experience, professional development and training, institutional support, and pedagogical and ethical concerns. Previous studies have examined many of these factors, but they have often been considered separately, providing limited insight into how teachers' perceptions, individual competencies, professional learning, and contextual conditions interact in AI-supported language teaching. The literature indicates the need for a more integrated examination of these dimensions to understand teachers' readiness and the challenges involved in moving from positive perceptions of AI to its meaningful pedagogical integration. The present study addresses this need by examining these interconnected dimensions through the complementary perspectives of TAM and TPACK.

3. Method

3.1. Research Design

This study adopts a qualitative case study design, using semi-structured interviews to explore EFL

teachers' readiness for integrating AI into online language teaching. The case examined in this study comprises nine EFL teachers with experience in online language teaching and AI-supported instructional practices. A qualitative approach is thus justified since it allows for an in-depth exploration of a nuanced phenomenon, namely teachers' beliefs, attitudes and professional experiences in relation to the focus of this study (Creswell & Poth, 2016). Semi-structured interviews allow for the collection of rich qualitative data while providing the flexibility needed to support participants' descriptions of their experiences and perspectives. Accordingly, this approach enabled the study to examine the factors shaping teachers' readiness for AI integration, the challenges they experienced, and the forms of support they perceived as necessary for using AI tools in online language teaching.

3.2. Participants

The participants consisted of nine EFL teachers who were actively engaged in online language teaching. Purposive sampling was used because the study required participants who could provide information-rich accounts based on their direct experience with online language teaching and AI-supported instructional practices. Potential participants were approached based on the inclusion criteria and were invited to participate voluntarily.

To be eligible, teachers were required to (1) have prior experience teaching English online and (2) possess at least basic familiarity with AI tools in language instruction. These criteria ensured that participants could provide relevant accounts of their perceptions, readiness, challenges, and support needs regarding AI integration.

The decision to retain nine participants was also informed by the adequacy of the information generated during data collection. Data collection and preliminary analysis were conducted iteratively, and the later interviews primarily confirmed and elaborated patterns identified in earlier interviews rather than generating substantially new themes. By the ninth interview, the emerging thematic structure was sufficiently stable to address the research questions. Thus, the sample was considered appropriate for the depth-oriented and context-specific purpose of the study, while the findings are not intended to be statistically representative of the wider population of EFL teachers. To protect participants' identities, each teacher was assigned a code name (T1–T9). The distribution of participants is presented in Table 1.

Table 1
Participant characteristics

Code	*Teaching Experience*	*AI Experience*	*Key Characteristic Relevant to Readiness*
T1	1-5 years	Limited	Concerned with AI-supported feedback
T2	6-10 years	Moderate	Emphasized lesson preparation/material generation
T3	1-5 years	High	Had stronger prior digital experience
T4	6-10 years	Moderate	Focused on pedagogical suitability of AI tools
T5	>10 years	Moderate	Emphasized need for structured AI training/workshops
T6	6-10 years	Moderate	Concerned about student over-reliance
T7	>10 years	Moderate–high	Focused on academic integrity
T8	1-5 years	Moderate	Relied mainly on self-directed learning
T9	>10 years	Moderate	Highlighted role of institutional support and resources

3.3. Data Collection

The primary method of data collection in this study was semi-structured interviews, selected for their flexibility and effectiveness in eliciting in-depth insights into participants' perspectives. An interview guide was created after consideration of the research questions and available literature regarding AI integration, teacher preparation and readiness. The questions addressed teachers' perceptions of AI, their readiness for the use of AI in online language teaching, the challenges they faced, and the kind of support they required.

To enhance the quality of the data collection process, a pilot study was conducted prior to the main interviews. This preliminary phase involved a small group of EFL teachers who met similar

characteristics to the target participants but were not included in the main study. The pilot interviews were used to refine the interview protocol. Based on feedback from the pilot phase, questions were revised to improve their clarity, relevance, sequencing, and capacity to elicit detailed accounts of teachers' experiences with AI integration.

Interviews took place in person or online and were conducted to last approximately 30–45 minutes, at a quiet and convenient location. Interviews were conducted in Vietnamese so that participants could convey their ideas comfortably and accurately. With participants' consent, the interviews were audio-recorded and transcribed verbatim. The Vietnamese transcripts were first retained as the primary data for analysis. Relevant excerpts were subsequently translated into English for reporting in the manuscript, with attention to preserving the intended meaning of participants' original responses.

3.4. Data Analysis

Semi-structured interviews data were analyzed through thematic analysis, an effective method for identifying, analyzing, and reporting patterns (themes) within qualitative data. This approach was chosen for its flexibility and also for being well suited to in-depth exploration of participants' perceptions and experience. This is especially relevant to explorations such as the current study that seeks to investigate EFL teachers' readiness for AI integration in online language teaching (Braun et al., 2024).

First, the author familiarized himself with the data through repeated reading of the interview transcripts. Second, initial codes were generated by identifying meaningful segments relevant to the research questions. Third, these codes were organized into broader themes by grouping similar patterns. Fourth, the themes were reviewed and refined to ensure internal coherence and clear distinctions between themes. Fifth, each theme was defined and named to capture its core meaning. Finally, the findings were reported with representative excerpts from participants to illustrate each theme.

The analysis was conducted by the author. Rather than relying on intercoder agreement, analytical rigor was supported through systematic documentation of the coding process, repeated comparison between codes, categories, themes, and the original transcripts, and continual refinement of interpretations against the dataset. Coding decisions and thematic development were documented throughout the analysis to maintain an audit trail and to make the progression from raw interview data to the reported themes transparent.

3.5. Trustworthiness

The trustworthiness of the qualitative analysis was addressed using Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability. Credibility was supported through repeated reading of the transcripts and careful comparison of interpretations with participants' accounts. Transferability was addressed by providing relevant contextual and participant information. Dependability was strengthened through systematic documentation of coding and theme development, while confirmability was supported by maintaining an audit trail and grounding themes in representative interview excerpts.

4. Results

4.1. Teachers' Perceptions of AI in Online Language Teaching

The following section presents teachers' perceptions of AI in online language teaching, focusing on its role as a supportive instructional tool and its contribution to flexible and autonomous learning.

Results show that teachers as a whole hold a largely favourable impression of AI, viewing it as supporting and efficiency-enhancing in the context of future online language teaching. For example, Teacher 1 mentioned that "AI can function as a helpful assistant in online language teaching, especially when it comes to providing immediate feedback on students' writing, which is something I cannot always do in large classes." and Teacher 2 said it was particularly useful for lesson preparation of its kind "AI tools are very useful when preparing my lessons because they

can suggest ideas, generate materials, and save a significant amount of time, particularly for online teaching contexts where preparation is demanding." Although both teachers emphasized efficiency, their accounts reflected different dimensions of perceived usefulness. Teacher 1 highlighted AI-supported feedback during instruction, whereas Teacher 2 emphasized its role in lesson preparation and material development. These accounts indicate that teachers' positive perceptions were not based solely on a general belief that AI was beneficial; rather, perceived usefulness was shaped by the specific instructional tasks that teachers considered demanding or time-consuming. From the perspective of TAM, such perceptions reflect perceived usefulness insofar as teachers associated AI use with improvements in particular aspects of their instructional work. At the same time, the findings suggest that teachers' acceptance of AI was closely related to the pedagogical functions they perceived AI as capable of supporting, rather than to the technology itself.

These findings also underline AI's role in fostering flexible learning and autonomous learning. According to Teacher 4, "AI makes online learning more flexible for students since they can interact with the system anytime, which helps them practice English beyond the limited time we have in class." whereas according to Teacher 6, it means that "I have noticed that students become more independent when using AI tools, especially for practicing writing and vocabulary, as they do not have to rely completely on the teacher anymore." These accounts indicate that teachers perceived the value of AI not only in terms of their own instructional efficiency but also in terms of extending learning opportunities beyond teacher-led classroom time. However, the perceived value of learner autonomy was specifically associated with opportunities for additional practice and interaction, particularly in writing and vocabulary learning. From a TAM perspective, these perceptions contribute to perceived usefulness because teachers associated AI with expanded learning opportunities. From a TPACK perspective, the findings further suggest that teachers' perceptions of AI were shaped by their consideration of how technological affordances could serve particular language-learning purposes.

4.2. Factors Influencing Teachers' Readiness

The following section presents the factors influencing teachers' readiness to integrate AI in online language teaching, particularly focusing on individual competencies, professional development, and institutional support.

Results show that technology proficiency and previous experience were important factors shaping teachers' readiness. As Teacher 1 stated, "my readiness to use AI depends largely on my technological skills, because if I am not confident in using digital tools, I feel quite hesitant to apply AI in my teaching." while Teacher 3 shared that "Since I already have experience using online platforms and digital tools, I feel more comfortable trying AI tools, as they are somewhat similar to what I have used before." The contrast between these accounts illustrates that readiness was experienced differently according to teachers' prior technological experience. For Teacher 1, limited confidence was associated with hesitation, whereas Teacher 3 described previous experience with digital tools as providing a sense of familiarity when approaching AI. This suggests that technological competence functioned not simply as a technical skill but also as a condition shaping teachers' confidence in experimenting with AI. In relation to TAM, this pattern is consistent with the role of perceived ease of use, as teachers who felt more technologically confident appeared to perceive AI as more manageable. From a TPACK perspective, the findings indicate that technological knowledge provides an important foundation, but its relevance lies in teachers' ability to connect technological possibilities with their instructional work.

The findings also underscore the importance of professional development and training. Teacher 5 stressed that "For me, training is very important, because without proper guidance or workshops, I do not feel fully prepared to integrate AI into my teaching effectively." and Teacher 8 explained, "Most of the time, I have to learn about AI tools by myself through online resources, which can be time-consuming and sometimes confusing without proper direction." These responses suggest that without sufficient structured training, teachers might be ill prepared or

uncertain about implementing AI tools. This is also in line with the literature of TPACK suggesting that it may not be sufficient for teaching to rely solely on the new technology even when teachers were previously successfully practicing without it as no integrated technological and pedagogical competencies would emerge. Simultaneously, insufficient training under the TAM framework may reduce both perceived usefulness and perceived ease of use, further reducing teachers' intention to adopt AI.

Another important contextual factor influencing readiness was institutional support. Teacher 9 stated, "Institutional support plays a significant role, because when the school encourages the use of AI and provides resources, I feel more confident and motivated to try it." This account suggests that teachers' readiness was not determined solely by their individual competencies. Institutional encouragement and access to resources were perceived as conditions that could create a more supportive environment for experimentation with AI. The finding therefore extends the individual focus of technology acceptance by showing how teachers' perceptions of AI use were situated within organizational conditions. From the perspective of TAM, institutional support may shape the conditions under which teachers can experience AI as usable and useful. From a TPACK perspective, institutional resources and support may provide opportunities for teachers to develop and enact their technological knowledge in actual teaching contexts.

4.3. Challenges in AI Integration

The following section presents the challenges teachers encounter in integrating AI into online language teaching, particularly in relation to limited knowledge, tool selection, pedagogical concerns, and technical constraints.

The findings show that lack of understanding about AI is a key barrier to effective integration. Teacher 2 said, "One major challenge for me is that I do not fully understand how AI works, so I sometimes feel uncertain about how to use it effectively in my teaching." and Teacher 4 acknowledged that "There are so many AI tools available, and I often feel confused about which ones are suitable for my teaching context and students' needs." These accounts point to two related but distinct difficulties. Teacher 2's concern centered on understanding AI sufficiently to use it effectively, whereas Teacher 4's concern involved evaluating the growing range of available tools in relation to specific teaching contexts and learner needs. The challenge, therefore, was not simply a lack of technical knowledge; it also involved making informed pedagogical choices about which technologies were appropriate for particular instructional purposes. From a TAM perspective, such uncertainty may contribute to lower perceived ease of use because teachers may experience AI as difficult to understand or manage. From a TPACK perspective, the findings highlight the need to connect technological knowledge with pedagogical considerations when selecting and applying AI tools.

The results also underscore pedagogical and ethical issues surrounding student learning. Teacher 6 and Teacher 7 stated that "I am concerned that students may rely too much on AI, especially in writing tasks, which might negatively affect their ability to think and learn independently." and "Another issue is academic integrity, because it is difficult to know whether students are using AI appropriately or simply copying the generated answers." These accounts reveal that teachers' concerns extended beyond whether AI was technically usable. They were also concerned about whether AI-supported learning was compatible with desired learning outcomes, particularly independent thinking and academic integrity. The two accounts highlight related but distinct concerns: Teacher 6 focused on students' potential dependence on AI, whereas Teacher 7 emphasized teachers' difficulty in determining whether students were using AI appropriately. From a TPACK perspective, these concerns illustrate the pedagogical decisions involved in determining when and how AI should be incorporated into learning activities and assessment. They also suggest that teachers' positive perceptions of AI were accompanied by reservations about its appropriate pedagogical boundaries. In relation to TAM, such reservations may qualify teachers' perceptions of AI's usefulness when its use is perceived as potentially undermining meaningful learning outcomes.

Moreover, technical barriers continued to pose practical challenges to AI integration. Teacher 8 explained, "Technical problems, such as unstable internet connections or system errors, can interrupt the lesson and make it difficult to use AI tools smoothly." Unlike the challenges related to teachers' knowledge or pedagogical judgment, this account reflects an external constraint that can interrupt AI-supported teaching regardless of teachers' willingness to use the technology. This indicates that readiness involves not only teachers' individual capabilities and perceptions but also the technological conditions in which AI-supported teaching takes place. From a TAM perspective, technical instability may negatively affect teachers' experience of ease of use and, consequently, their assessment of the practical usefulness of AI in particular teaching situations. From a TPACK perspective, such constraints may limit teachers' ability to enact their technological knowledge effectively in actual instructional contexts.

5. Discussion

The findings of this study both align with and extend previous research on AI integration in online language teaching by showing how teachers' perceptions, readiness, and challenges are shaped not only by the perceived value of AI but also by the pedagogical purposes and contextual conditions surrounding its use.

5.1. Teachers' Perceptions of AI in Online Language Teaching

First, teachers generally perceived AI as a supportive rather than substitutive instructional tool, particularly for providing feedback, assisting lesson preparation, and extending opportunities for flexible learning. This finding is consistent with Moorhouse et al. (2023) and Göksel (2021), who highlight the potential of AI to support instructional efficiency while retaining teachers' central role in pedagogical decision-making. The present findings, however, provide a more context-specific understanding of perceived usefulness. Rather than describing AI as generally useful, teachers associated its value with particular instructional demands. For example, one teacher emphasized immediate feedback during instruction, whereas another highlighted lesson preparation and the development of teaching materials. This variation suggests that teachers' perceptions of AI usefulness were task-specific and closely connected to the instructional problems they sought to address.

This finding further refines the interpretation of TAM in the context of AI-supported language teaching. While perceived usefulness and perceived ease of use remain relevant to teachers' acceptance of AI, the findings suggest that usefulness is not necessarily a general evaluation of the technology. Instead, it may be constructed in relation to specific pedagogical activities and perceived instructional needs. In this sense, the study extends a technology-centred interpretation of TAM by showing that teachers' perceptions of AI are situated within the practical demands of language teaching. The findings also complement Arabshahi et al. (2024) and Sun (2023), who emphasize the importance of meaningful learner participation and human interaction in technology-mediated learning. Teachers in the present study similarly valued AI for extending learning opportunities but did not position it as a substitute for teacher involvement or human interaction.

From a TPACK perspective, these findings indicate that teachers' use of AI involves more than technological knowledge alone. Teachers evaluated AI according to how particular tools could support specific pedagogical purposes, such as providing feedback, preparing materials, facilitating practice, or supporting learner autonomy. This suggests that the pedagogical value of AI emerges when technological affordances are connected with instructional goals, illustrating the relevance of the interaction between technological and pedagogical knowledge emphasized in TPACK.

5.2. Factors Influencing Teachers' Readiness for AI Integration

Second, the findings regarding teachers' readiness are broadly consistent with previous research emphasizing technological competence, prior experience, professional development, and

institutional support. Erol et al. (2025) and Marić and Petković (2024), for example, highlight knowledge, skills, and self-efficacy as important dimensions of teachers' readiness for AI integration. Similarly, Alam et al. (2024) and Kildē (2024) emphasize the importance of teachers' ability to understand AI-generated outputs and use AI appropriately and ethically. The present study supports these observations but also indicates that readiness is experienced differently depending on teachers' previous technological experiences. Teachers with greater familiarity with digital technologies described greater confidence in experimenting with AI, whereas limited technological confidence was associated with hesitation.

Professional development was also identified as an important condition for readiness. This finding is consistent with Kristiawan et al. (2024), who emphasize the importance of continuing professional development in strengthening teachers' practical knowledge and confidence. Importantly, the present findings suggest that teachers did not view professional development simply as an opportunity to learn how to operate AI tools. Rather, they sought guidance on how AI could be selected and incorporated appropriately into teaching. This distinction is important because technical knowledge alone may not enable teachers to make pedagogically appropriate decisions about AI use.

Institutional support further demonstrates that teachers' readiness cannot be understood exclusively as an individual characteristic. Consistent with Alshahrani et al. (2024), the findings indicate that leadership, policies, training opportunities, and technological resources can create conditions that either facilitate or constrain teachers' experimentation with AI. Thus, the findings extend an individual-centred interpretation of readiness by positioning it within the organizational environment in which teachers make decisions about technology use.

These findings also offer a more nuanced interpretation of TAM. Teachers' technological competence and prior experience may shape how easily they perceive AI can be used, while professional development and institutional support may influence whether AI is perceived as sufficiently understandable and useful for classroom purposes. However, the findings suggest that these conditions do not operate independently of pedagogy. From a TPACK perspective, readiness involves the development of integrated technological and pedagogical knowledge, rather than technological competence in isolation. Teachers therefore require not only knowledge of what AI tools can do but also knowledge of when, why, and how those tools can be meaningfully incorporated into language teaching.

5.3. Challenges in AI Integration

Finally, the challenges identified in this study are broadly consistent with previous research but also provide a more contextualized account of the difficulties teachers encounter when moving from awareness of AI to pedagogical use. Teachers reported limited understanding of AI, uncertainty about selecting appropriate tools, ethical concerns, and technical barriers. These findings are consistent with Kildē (2024), who identifies limitations in digital competence and training as barriers to AI integration, and with Jiang and Meng (2025), who discusses concerns related to student dependence on AI and academic integrity. Similarly, Alam et al. (2024) highlights practical and ethical concerns associated with AI integration in education.

However, the findings indicate that these challenges are not simply technical barriers to technology adoption. Teachers' concerns about students' dependence on AI and academic integrity demonstrate that they were also evaluating AI according to its consequences for learning processes and assessment practices. For example, concerns about students relying excessively on AI in writing were connected to teachers' expectations regarding independent thinking, while concerns about academic integrity involved difficulties in determining the extent to which students' work reflected their own learning. These findings therefore extend previous discussions of AI readiness by showing that teachers may simultaneously recognize the usefulness of AI and question whether particular uses are pedagogically desirable.

This tension has implications for TAM. The findings suggest that perceived usefulness and ease of use should not be interpreted as sufficient conditions for positive perceptions of AI. A

technology may be perceived as useful and relatively easy to use while still raising concerns about whether its use supports valued educational outcomes. Thus, teachers' evaluations of AI appear to involve not only instrumental considerations but also pedagogical and ethical judgments. This provides a more contextualized interpretation of technology acceptance in language teaching, where the value of a technology depends partly on its compatibility with instructional goals.

The findings similarly reinforce the relevance of TPACK by demonstrating the difficulty of aligning technological affordances with pedagogical objectives. Teachers needed to consider whether AI-supported activities promoted meaningful language practice, independent thinking, and valid assessment rather than simply increasing efficiency. The challenge, therefore, lies not only in knowing how to use AI but also in determining how its use can be pedagogically justified within a particular teaching context.

Taken together, the findings suggest that TAM and TPACK provide complementary but distinct explanations of teachers' AI integration. TAM helps explain why teachers perceive AI as useful or difficult to use, particularly in relation to instructional efficiency, confidence, and practical usability. TPACK, in turn, helps explain how teachers connect AI affordances with pedagogical purposes and content-related demands. The findings indicate that neither perspective alone fully captures the contextual nature of teachers' AI integration.

More specifically, the study suggests that teachers' acceptance of AI is situated within pedagogical tasks and organizational conditions. Perceived usefulness was associated with specific instructional needs rather than with AI in general; readiness was shaped by prior technological experience, professional development, and institutional support; and concerns about AI emerged when technological affordances appeared to conflict with pedagogical or ethical priorities. These patterns suggest that AI integration should be understood not simply as a matter of technology acceptance or technological knowledge, but as a process in which teachers continuously evaluate the relationship between technological affordances, pedagogical purposes, learner needs, and contextual constraints.

In this respect, the study contributes to existing TAM and TPACK research by bringing the two perspectives together to explain different but interconnected dimensions of AI integration. TAM captures teachers' evaluations of the practical value and usability of AI, while TPACK illuminates the pedagogical reasoning underlying its use. The findings therefore suggest that teachers' positive perceptions of AI do not automatically translate into pedagogically appropriate integration. Instead, effective integration depends on teachers' ability to connect perceived technological benefits with instructional goals and to negotiate contextual, pedagogical, and ethical constraints.

6. Conclusion

This study investigated EFL teachers' readiness to integrate AI into online language teaching, focusing on their perceptions, factors influencing their readiness, and the challenges they encountered. The findings show that teachers generally perceived AI positively as a supportive pedagogical tool, particularly for improving instructional efficiency, providing immediate feedback, and extending opportunities for flexible and self-directed learning. Rather than viewing AI as a replacement for teachers, participants generally positioned it as a tool that could support teachers' instructional work and extend learning opportunities.

However, teachers' readiness to integrate AI was shaped by multiple interrelated factors, including technological competence, prior experience, access to professional development, and institutional support. The findings indicate that readiness was not solely an individual characteristic but was also situated within the professional and institutional conditions in which teachers used AI. At the same time, several challenges persisted, including limited understanding of AI, difficulties in selecting appropriate tools, concerns about student over-reliance and academic integrity, and technical constraints. These findings highlight a gap between positive perceptions of AI and the ability to integrate it appropriately and meaningfully into teaching practice.

The findings also contribute to understanding AI integration through the complementary perspectives of TAM and TPACK. TAM helps explain teachers' perceptions of the practical

usefulness and usability of AI, while TPACK highlights the importance of connecting technological affordances with pedagogical purposes and content-related demands. Importantly, the findings suggest that positive perceptions of AI do not automatically result in pedagogically appropriate integration. Rather, teachers need to evaluate how AI can be used in relation to instructional goals, learner needs, and contextual constraints.

In summary, meaningful AI integration in online language teaching requires more than positive teacher perceptions or access to AI tools. It requires sustained professional development, appropriate institutional support, and opportunities for teachers to develop the knowledge and pedagogical strategies needed to use AI effectively and ethically. These findings provide a contextually grounded understanding of teachers' readiness for AI integration and highlight the importance of supporting teachers not only in learning how to use AI tools, but also in making informed pedagogical decisions about when, why, and how to use them in EFL teaching.

7. Limitations

This study has several limitations. First, the small and context-specific sample of nine EFL teachers limits the transferability of the findings to other teaching contexts. Second, reliance on self-reported interview data may involve recall or social desirability bias and reflects teachers' perceptions rather than their actual classroom practices. As no classroom observations were conducted, reported readiness could not be directly compared with observed AI use. Third, the study focused exclusively on teachers' perspectives. Future research could address these limitations by including more diverse participants, classroom observations, and complementary data sources, as well as incorporating students' perspectives to provide a broader understanding of AI integration in online EFL teaching.

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Data availability: Access to the study's data is available upon request from the author.

Declaration of interest: The author affirms that there are no potential conflicts of interest related to the research, authorship, or publication of this article.

Ethical statement: Data were collected through semi-structured interviews with nine EFL teachers. All participants provided informed consent before the interviews. Participation was voluntary, and participants' identities were kept confidential throughout the study. In accordance with the institutional guidelines applicable at the time of data collection, formal ethics committee approval was not required for this study.

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