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Artificial Intelligence Literacy and Teachers' Readiness in EFL Context: A Systematic Literature Review

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Abstract

Existing studies on AI literacy have largely focused on students, leaving EFL teacher preparedness underexplored. This study aims to explore the level, determinants, barriers, and recommended solutions regarding AI literacy and EFL teachers' readiness. Using the SLR method with PRISMA guidelines and Lame's (2019) framework, this synthesized six empirical articles published between 2022 and 2025 from the Google Scholar database. The findings report that AI literacy and EFL teachers' readiness are classified at a moderate level. The majority of determinants include internal and external factors. Next, this study identified significant barriers such as limited infrastructure, lack of professional development training, ethical concerns, and AI anxiety. To address these challenges, recommended strategies include continuous professional development based on the AI-TPACK framework, the formulation of clear institutional ethics policies, and the adoption of peer mentoring models. Ultimately, there is a strong positive correlation between AI literacy and teacher preparedness. This study provides a foundational framework to assist educational institutions in designing future-ready professional competency standards for EFL educators.

Keywords

Artificial Intelligence Literacy, EFL, Teacher Readiness, Systematic Literature Review.

Introduction

The development of Artificial Intelligence (AI) has carried out a significant transformation in the education sector globally, particularly creating more personal, adaptive, and efficient learning experiences (Prihandoko et al., 2025). In the EFL context, AI allows human interaction simulation, analysis of student learning patterns, and provides real-time feedback, which was previously difficult to reach in conventional classes (Ozdemir & Mede, 2024). Thus, AI plays an important role in increasing both quality and quantity in EFL. Various AI tools have made the development of EFL learning possible, such as ChatGPT, Gemini (Santosa & Ratminingsih, 2026), Meta AI, DeepSeek, Grammarly, Quillbot, Duolingo, ELSA Speak, and Google Voice (Fitri et al., 2025), and Intelligent Tutoring System (Elmahdi et al., 2024). Those AI tools help users with

grammar correction, vocabulary retention, speaking and listening practice, and allow be a virtual tutor in real-time as well. Future teachers have positively perceived in utilize these tools and believe these are innovative and increase English language skills (Santosa & Ratminingsih, 2026). With the potential benefits of AI to students, it presents its own challenges regarding the risk of dependency, creativity decreasing, ethical issues, infrastructure gap, and teacher readiness (Guo & Wang, 2025; Jiang, 2022). Hence, it shows that integrating AI into education requires a balance between the benefits of its use and the mitigation of potential risks. This circumstance raises an important question about the role of teachers in the era of AI in education.

Despite AI strongly leading adaptive and real-time feedback, the role of teachers is irreplaceable in emotional relationships, forming ethics, and instilling moral values (Fitria, 2023; Prihandoko et al., 2025). Teachers' role is shifting from simply as information central to a dual professional responsibility that requires balancing language learning with technology integration (Prihandoko et al., 2025). The Teacher is standing in the center, conversing to play a vital role alongside AI. In terms of advanced perception usefulness, the majority of prospective EFL teachers evaluate AI as highly helpful or quite helpful regarding lesson planning and creating materials (Fitri et al., 2025). Existing studies also indicate that EFL teachers have positive attitudes toward the use of AI (An et al., 2023; Ozdemir & Mede, 2024; Zhou & Hou, 2024). However, the success of AI implementation does not depend only on the perspective and positive attitude of EFL teachers, but also hinges heavily on functional readiness (Prihandoko et al., 2025). Educational institutions are required to take proactive steps in deciding and selecting AI, integrating AI-TPACK, as well as seriously evaluating AI tools for designing EFL lessons (Zhou & Hou, 2025). Due to this, the effective AI implementation demands EFL teachers to have strong functional readiness and active contribution of institutions to support AI utilization.

Teacher readiness in the AI context is illustrated as a journey of transition of the teacher, moving from unfamiliar circumstances regarding AI capacity to gaining a clear perspective of what can be achieved with this technology (Ozdemir & Mede, 2024). It is not merely a desire to apply tools, except for some dimensions that include psychology, competency, and facility (Alahmad, 2025; Prihandoko et al., 2025). Although teacher readiness has been highlighted as a determinant of success, the level of EFL teachers' readiness to use AI in practice still requires further examination. Recent studies report that the level of EFL teacher readiness varies, yet tends to be at a moderate level, which includes moderate actual integration in classrooms, a contextual gap between prep school teachers and K-12 teachers, and demographic factors (Alahmad, 2025; Elmahdi et al., 2024).

Many EFL teachers are facing external challenges, like a lack of professional development (PD) training, limited access to technical resources, and standard ethical guidelines (Elmahdi et al., 2024). Further, the internal challenges faced by EFL teachers include anxiety, as AI is feared to replace teachers in the future (Ozdemir & Mede, 2024). Those barriers reflect the breadth of AI literacy coverage that has not yet been fully mastered by teachers. AI literacy is a fundamental determination that underlies EFL teachers' readiness (Safarli et al., 2025). AI literacy is not merely capable operating AI itself, but it is also about a comprehensive conceptual understanding to integrate AI critically in EFL learning (Pan & Wang, 2025). There is a positive correlation between AI literacy and AI acceptance, which means that the higher the AI literacy of teachers, the more ready and confident to adopt AI in EFL learning (Alahmad, 2025). Without sufficient AI literacy, teachers merely peripherally use AI and are unable to design learning activities deeply.

Many existing studies focus on students' perspectives, learning outcomes, or the general benefits of integrating AI in the classroom (Casal-Otero et al., 2023; Ng et al., 2023, 2024). Regarding AI literacy of EFL teachers, studies report generally, and only a few refer specifically to the nexuses of AI literacy and readiness as a measured construct (Jing & Mohamad Nasri, 2025; Laoha et al., 2025). Even AI literacy among teacher education has as yet infrequently addressed (Sperling et al., 2024). The framework of AI literacy is largely generic and has not been tested across EFL contexts or as predictors of readiness (Casal-Otero et al., 2023). Although research continues to develop on AI in the EFL context, there is limited literature

review that specifically examines the level and determinants of AI literacy and teacher readiness, beyond perspective, acceptance, or attitudes toward AI. Previews studies provide barriers and general recommendations for solutions related to AI in education and ELT, for instance, the challenges of technical, attitudinal, and pedagogical (Casal-Otero et al., 2023; Crompton et al., 2024). Frequently focus on AIED, AI literacy in K-12, and higher education (Casal-Otero et al., 2023) or affordances AI for extensive language learning, not specific to AI literacy and teacher readiness of EFL teachers (Cong-Lem et al., 2025; Crompton et al., 2024). Thus, this literature review's study seeks to fill this gap by compiling a thematic mapping centered on AI literacy and EFL teachers' readiness.

This study is about looking at systematically reviewing existing research related to AI literacy and EFL teacher readiness. Furthermore, this study aims to analyze the current level of AI literacy among EFL teachers and identify factors that influence teacher readiness towards AI literacy, as well as to explore barriers and proposed solutions to improve EFL teacher readiness. Therefore, the research questions include: 1) How do existing studies describe the levels and determinants of AI literacy and teacher readiness in the EFL context? 2) What barriers and recommended strategies are identified for enhancing AI literacy and teacher readiness among EFL teachers? As a systematic literature review, this study offers a comprehensive understanding of the nexuses between AI literacy and teacher readiness in the EFL context. also look forward to offering practical insights for educational institutions and agencies in designing effective training and developing professionalism for EFL teachers.

Literature Review

AI in the EFL Learning

AI is defined as a computer system that is capable of simulating human intelligence (Ichaporia & Crichton, 2023). This system is designed to perform tasks that historically require human cognitive ability, such as recognizing pronunciation, making decisions, pattern identification, data analysis, and creating written reports (Mishu et al., 2025). Simply, AI refers to technology that imitates human behavior, which is also included in the education field. In the EFL context, AI allows students to interact with simulations, analysis of student learning patterns, and provides real-time feedback, which was previously difficult to reach in conventional classes (Ozdemir & Mede, 2024). There are types of technology that support AI integration in education and EFL: Machine Learning (ML), which is a subpart of AI for developing an algorithm to learn from massive data and increase performance automatically without explicit order (Mishu et al., 2025). Next is Natural Language Processing (NLP) is an analytical technique that allows AI to comprehend, interpret, and create human language as the outcome in both text and oral form (Crompton et al., 2024; Mishu et al., 2025).

Chatbots are computer AI programs that promote interactive communication between humans and machines. They include ChatGPT, Gemini, and Claude as a 24/7 conversation partner for students (Jiang, 2022; Jing & Mohamad Nasri, 2025). Moreover, the Intelligence Tutoring System (ITS) is a computer-based system to give a personal guide to students through an algorithm and neural network to continuously monitor personal progress and adjust the learning path as needed (Elmahdi et al., 2024; Jiang, 2022; Laoha et al., 2025); last is Virtual Reality (VR) and Augmented Reality (AR), which are created to provide immersive learning experiences by simulating a real environment to support practical comprehension of culture and language (Crompton et al., 2024; Mishu et al., 2025). The integration of various AI technologies in EFL education helps both teachers and students in a more efficient teaching-learning process.

AI plays as a driving engine, increasing both quality and quantity in EFL. AI has some main mechanisms to create adaptive and efficient learning experiences, such as allowing students to interact with simulations, analyzing students' learning patterns, and providing real-time feedback, which was previously difficult to reach in conventional classes (Ozdemir & Mede, 2024). The development of AIEd has been

through three paradigms, starting with directed instruction, then moving to support as students work with AI, and finally to truly personalized and learner-centered learning (Tapalova & Zhiyenbayeva, 2022).

In other studies, the three paradigms mentioned as form passive learning to interactive models, multimodal, and then real-world-based with simulation using VR/AR (Mishu et al., 2025). AI also allows 24/7 accessibility with any mobile device, which is opposite to conventional learning with space and time gaps (Crompton et al., 2024). Thus, this drives the transition from conventional learning to data-driven or AI-powered learning environments. Despite AI strongly supporting a learning environment, the role of teachers is irreplaceable in emotional relationships, forming ethics, and instilling moral values (Fitria, 2023; Prihandoko et al., 2025). AI provides joyful learning; however, it does not predict meaningfulness in the teaching learning process (Santosa et al., 2026). Teachers' role is shifting from simply as information central to a dual professional responsibility that requires balancing language learning with technology integration (Prihandoko et al., 2025). To maintain and succeed in their roles, EFL teachers need a skill set that goes beyond traditional methods, includes the ability to formulate prompt engineering, attitude and critical awareness, and AI literacy with AI-TPACK (Alahmad, 2025; Laoha et al., 2025).

AI Literacy

One of the foundational competencies in modern education is AI literacy (Alahmad, 2025). AI literacy is not merely an ability to operate AI itself, but it is also about a comprehensive conceptual understanding to integrate AI critically in EFL learning (Pan & Wang, 2025). In other words, AI literacy is a fundamental competency that requires a critical and conceptual understanding, not merely of the technical aspects of AI integration, but also of its impact on EF learning progress. The structure includes three priority axes (Casal-Otero et al., 2023), including: 1) learning about AI, which refers to concepts, techniques, and the ability to recognize the use of AI; 2) Learning how AI works, promoting practical required skills to utilize AI systems effectively; 3) Learning for life with AI, focusing on comprehension of social and ethical consequences through AI technology with critical evaluation. Broadly speaking, these three axes also include algorithms, data structures, and the pedagogy fields. As learning includes teachers and students, AI literacy also has differences between teachers and students. Students are seen as early adopters who use AI tools often outside the classroom (Alahmad, 2025).

Technically, students' AI literacy focuses on understanding, utilizing, and computational thinking with AI tools, and future ethical awareness (Casal-Otero et al., 2023; Ng et al., 2023). Their literacy skills are often detected as shallow and at high risk of cognitive transfer, where they use AI without understanding its underlying structure to complete tasks (Safarli et al., 2025). Thus, students' AI literacy must tend to academic integrity and enhance high-level thinking skills. Meanwhile, teachers' AI literacy means mastering AI knowledge, pedagogy integration, evaluating instruments, and ethical considerations as part of professionalism (Sperling et al., 2024; Zhao et al., 2022). Teacher needs particular forms that match their Technology Pedagogical Content Knowledge (TPACK) (Laoha et al., 2025). Therefore, the difference between teachers' and students' AI literacy lies in the level and the purpose of using AI. The nexus of AI literacy with pedagogy and ethical practice in teachers' views is affected by meaningful adaptation into integrating the curriculum, designing tasks, and ethical awareness (Casal-Otero et al., 2023; Ng et al., 2023). Among students, AI literacy is connected to academic outcomes and high-level thinking skills regarding the AI system (Casal-Otero et al., 2023; Ng et al., 2023, 2024). AI literacy is defined differently by teachers and students, based on the level of understanding, the purpose of use, and the role of AI in the learning process.

Teacher Readiness in AI Integration

Teacher readiness in the AI context is illustrated as a journey of transition of the teacher, moving from unfamiliar circumstances regarding AI capacity to gaining a clear perspective of what can be achieved with this technology (Ozdemir & Mede, 2024). In the EFL context, AI literacy covers readiness and proficiency

to utilize AI in designing, implementing, and assessing language learning (Harakchiyska, 2025). It is not merely a desire to apply AI tools, except for some dimensions that include psychology, competency, and facility (Alahmad, 2025; Prihandoko et al., 2025). Psychology dimension refers to behavioral intention, positive attitude, and AI anxiety level based on teachers' feelings about the technology.

Next is the competency dimension is about the confidence of teachers to blend technology with pedagogy and linguistic form that is included in AI-TPACK. The last is facility dimension, which is a belief regarding infrastructure, such as hardware and software, available to support the utilization of technology. Thus, teacher readiness affects the success in learning. However, recent studies report that the level of EFL teacher readiness varies, yet tends to be at a moderate level, which includes moderate actual integration in classrooms (Alahmad, 2025; Elmahdi et al., 2024). This happens because of some determining factors, including demographic factors, subjective norms and social, the students' influences, and compatibility. Demographic factors refer to variables like gender, educational background, and age in technology comfortably (Alahmad, 2025). Then subjective norms and social, which include expectation, pressure, or support from the administrator, and global trends in the teachers' professional community (Alahmad, 2025; Prihandoko et al., 2025). Next is the students' influence, students' readiness beyond the teachers, which could be a motivator for teachers (Prihandoko et al., 2025). The last is compatibility, how far AI tools are seen as aligned with the pedagogy line, EFL learning, and the existing curriculum (Prihandoko et al., 2025). These factors that determine teacher readiness are interrelated with the structured training, institutional support, and infrastructure readiness (Alahmad, 2025; Laoha et al., 2025). Teacher readiness in AI integration is the outcome of a blend between teachers' personal factors and sustained institutional supports that include training PD, and infrastructure.

Method

This study utilizes a Systematic Literature Review (SLR) to analyze and synthesize prior studies on the research topic (Lame, 2019). With SLR, this research was built with structure, transparency, selection, and evaluation of the previous study. This study uses the SLR steps proposed by (Lame, 2019) as explained below.

Table 1. Deciding Steps in SLR

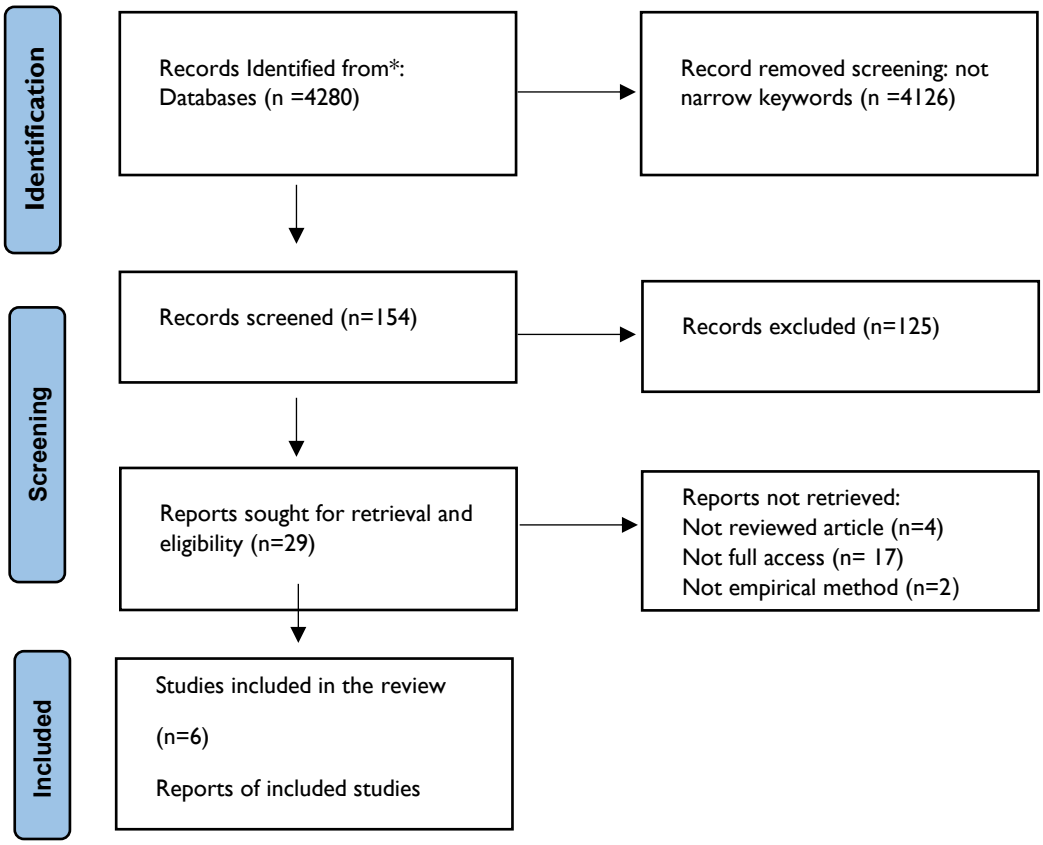
Steps	Aims
Finding a research question	In selecting the prior research, the first step is screening the title and abstract. Thenceforth, read the entire screened article.
Defining inclusion and exclusion criteria	Define the criteria relevant and irrelevant to previous research with the current.
Choosing a relevant study	Exploring the broadest source relevant to the RQ in the database, like Google Scholar.
Studies selection	Identify the relevant research.
Assessing the study quality	Assessing the chosen research quality.
Extracting the data	Choosing the relevant data needed.
Analyzing and presenting the result	Analyze the chosen research and present the results.
Interpreting the results	Explain how the result answered RQ, identifying strengths and limitations, also provide recommendations for further research.

Further, the research protocol that was utilized in order to lead this research properly and directly is listed below.

Table 2. Research Protocol

Research Questions	RQ 1: How do existing studies describe the levels and determinants of AI literacy and teacher readiness in the EFL context? RQ 2: What barriers and recommendation strategies are identified for enhancing AI literacy and teacher readiness among EFL teachers?
Relevant Database	Google Scholar
Boolean System Query	("AI literacy" OR "artificial intelligence literacy" OR "digital literacy" OR "technology literacy") AND ("teacher readiness" OR "teacher preparedness" OR "teacher acceptance" OR "teacher attitude" OR "teacher perception") AND ("EFL" OR "ESL" OR "L2" OR "English language teaching" OR "language learning") AND ("education" OR "classroom" OR "instruction")
Year Published	2022-2025, due to Gen AI, has raised around 2022 in learning language education, particularly after ChatGPT was released in November 2022 (Kostka & Toncelli, 2023).
Published Type	Peer-reviewed journal, article journal, magister thesis, full text access
Inclusion Criteria	1) The discussion must focus on AI or Gen AI 2) Measuring EFL/L2 teachers' AI Literacy at an advanced level 3) Must be an empirical methodology 4) Written in English
Exclusion Criteria	1) Using non-empirical methodology 2) Subject focus outside the scope of EFL 3) Irrelevant population
Study Selection	Screening the title and abstract, reading the whole research
Analysis Technique	Thematic synthesis-based finding categorizations (AI literacy level, influencing factors, barriers, solutions)

This article also applies Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Guidelines (Lame, 2019).



Findings & Discussion

This findings study is presented according to an analysis of six selected studies common to AI literacy and teacher readiness in EFL contexts.

Table 3. Analysis included studies

Author (Year)	Context/ Participants	Method	Publication Type
(Prihandoko et al., 2025)	146 EFL high school teachers in Greater Solo, Indonesia, who follow a Professional Development workshop about using AI	Quantitative: Partial Least Squares Structural Equation Modelling (PLS-SEM) and IPMA.	A journal article
(Elmahdi et al., 2024)	150 EFL teachers (Survey) and 15-20 EFL teachers (Interview) from various pedagogy levels with a global survey.	Mixed-Methods Exploration (quantitative and semi-structured interview).	A journal article
(Alahmad, 2025)	226 Guru EFL (Survey) and 10 Guru EFL (Interview) who work at K–12 school and prep university program (*prep school*) in Türkiye.	Sequential Explanatory Mixed-Methods Design (quantitative followed by qualitative) utilizes the *self-efficacy* AI (TAICS) scale and semi-structured interview.	Master's thesis
(Safarli et al., 2025)	300 EFL learners (undergraduate/postgraduate) and 30 instructors of Higher Education Institutions in Azerbaijan and India.	Convergent Mixed-Methods Design with Dataset Modelling Simulation (survey and thematic interview)	A journal article
(Fitri et al., 2025)	9 prospective EFL teachers in the last year at Mataram University, Indonesia, during teaching practices.	Qualitative Cross-Case Analysis (open-ended questionnaires and semi-structured interviews)	A journal article
(Ozdemir & Mede, 2024)	27 EFL in-service teachers at the English preparatory school at a private university in Ankara, Türkiye.	Qualitative Interpretation using AI teacher readiness scale (descriptive analysis), semi-structured interviews, and a reflection paper.	A journal article

RQ 1: How do existing studies describe the levels and determinants of AI literacy and teacher readiness in the EFL context?

Table 4. Analysis of AI literacy, teacher readiness level, and determinants factors

Author (Year)	AI Literacy/ Readiness Levels	Determinants of Readiness
(Prihandoko et al., 2025)	The behavioral intention of EFL teachers is high to adopt and accept AI, but teachers' AI literacy level is moderate.	Compatibility AI in existing practice teaching, which is the strongest predictor of Positive Attitude; Student influence in the role of teacher technologists
(Elmahdi et al., 2024)	The level of familiarity and integrity of AI is low/limited among EFL teachers, yet it reports Perceived Attitude.	Perception between humans and the AI used to personality and self-efficacy of teachers

(Alahmad, 2025)	Through the self-efficacy of AI competition or TAICS at moderate levels among EFL teachers	There are gaps in confidence in AI assessment and AI ethics between the teaching context and gender: a) Teachers in Prep School show significantly higher AI competency than K-12 School teachers. b) Female teachers have a significantly high score in some AI competency subdimensions.
(Safarli et al., 2025)	Uneven impacts on EFL teachers' skills: highest in writing and reading, lowest in speaking and listening	Utilization of AI tools and digital literacy level among undergraduate/postgraduate EFL learners and instructors show the essence of user competency instead of the user frequency; Gaps among teachers' Technology Knowledge and planned pedagogies' integrity
(Fitri et al., 2025)	Prospective EFL teachers have a positive perceived usefulness; nevertheless, the majority are at the conceptual underpinning level, or know the concept but are not yet proficient	Social Influence or Subjective Norm, such as a guilty feeling or being afraid of being judged in using AI for teaching
(Ozdemir & Mede, 2024)	In-service EFL teachers have moderate readiness, although it shows the positive aspects of perceived usefulness	Availability of hardware and software facilities; Psychological factors like perceived attitude and moderate anxiety

Most studies consistently report that AI literacy and EFL teachers' readiness are at a moderate level. Although the studies show teachers have a positive attitude and strong perception towards the utilization of AI, the technical familiarity and the actual integration in education are classified as low to moderate. Some studies indicate that in-service EFL teachers are at a conceptual underpinning level, meaning they understand the concept but are not yet proficient in implications (Fitri et al., 2025). The level of AI literacy and EFL teachers' readiness, as found in these studies, leads the analysis to its determining factors.

Determinants of this readiness are divided into two factors. First, internal factors, including self-efficacy and AI anxiety, are the main predictors of AI integrations and readiness (Alahmad, 2025). Next is performance expectancy, affected by the confidence of increasing learning effectiveness (Prihandoko et al., 2025). Then, there are demographics, such as gender, where female teachers are reported to be readier than male teachers (Alahmad, 2025). The last is the digital literacy gap, the general ability to master technology, seen as fundamental in developing AI literacy among EFL teachers. Second, external factors are divided into social and institutional. Social factors refer to student influence, subjective norms, and peer influences (Alahmad, 2025; Fitri et al., 2025; Prihandoko et al., 2025). Meanwhile, institutional factors covering compatibility, facilitating conditions, PD training, and the last is institutional contexts, which refer to the gap between prep school EFL teachers and K-12 EFL teachers (Ozdemir & Mede, 2024; Prihandoko et al., 2025; Safarli et al., 2025).

RQ2: What barriers and recommendation strategies are identified for enhancing AI literacy and teacher readiness among EFL teachers?

Table 5. Analysis of barriers and recommended strategies

Author (Year)	Barries	Recommended Strategies
(Prihandoko et al., 2025)	1.Gaps in compatibility with AI implementations; 2. Limitation of social norms or subjective (not significantly affected).	1. Addressing compatibility for enhancing AI tool alignment with existing routine pedagogy; 2. Sustainable support of institutions for developing competency techniques meaningfully; 3. Focus on the competency and attitude of EFL teachers
(Elmahdi et al., 2024)	1. Limitation of supports and training; 2. Ethical Concerns: the risk of weakening meaningful human interactions; 3. Irresolution AI assessment validation.	1. Developing comprehensive professional training; 2. Clear validation from institutions regarding ethics and oversight policy; 3. Sustainable support of institutions for developing competency techniques meaningfully;
(Alahmad, 2025)	1. Specific competency gap of self-confidence; 2. Limitation of supports and training/guiding; 3. Risk of cognitive outsourcing: overreliance and data privacy for learners; 4. Infrastructure constraints.	1. Addressing compatibility for enhancing AI tool alignment with existing routine pedagogy; 2. Clear validation from institutions regarding ethics and oversight policy; 3. Mentorship model of female teachers and prep school teachers as mentors to promote peer skill transfer; 4. Improving digital infrastructure and adequate resource allocation.
(Safarli et al., 2025)	1. Gaps in oral proficiency; 2. Risk of cognitive outsourcing: overreliance and data privacy for learners; 3. TPACK gap teachers; 4. Cultural sensitivity in limiting cultural relevance.	1. Focus on learners' critical literacy; 2. Developing TPACK teachers; 3. Designing oral proficiency; 4. Promotes the policy of AI localization
(Fitri et al., 2025)	1. Technical unreliability, such as unreliable information and adversity in designing the prompt; 2. Social negative stigma or guilty feeling of using AI; 3. Limitation of supports and training/guiding; 4. Ethical Concerns: decreasing critical thinking and plagiarism.	1. Capacity building: AI literacy and prompting training; 2. Clear validation from institutions regarding ethics and social stigma; 3. PD focuses on conceptual underpinning appropriation.
(Ozdemir & Mede, 2024)	1. Infrastructure constraints; 2. Technical unreliability, such as unreliable information and adversity in designing the prompt; 3. Ethical Concerns: the risk of weakening meaningful human interactions; 4. Existential anxiety of using AI.	1. Prioritize digital infrastructure and adequate resource allocation; 2. Developing comprehensive professional training; 3. Capacity building: AI literacy and prompting training; 4. PD focuses on highlighting the unique aspects of the teacher's role.

The review identifies several barriers to embracing AI literacy and teacher readiness in EFL teachers:

1. Limited infrastructure and access, the differences are generally seen between K-12 schools and prep schools (Laoha et al., 2025; Ozdemir & Mede, 2024) that creates a great digital gap. Connection with rural schools' teachers also restricts them from experimenting with AI tools.
2. Lack of institutional training support, numerous teachers feel 'ignored' in understanding AI, almost without clear guidance and policy from institutes (Alahmad, 2025; Elmahdi et al., 2024).
3. Pedagogical and proficiency gaps, problems with technical issues, the difficulty in prompt engineering as an example (Fitri et al., 2025), causing irrelevant AI outcomes which decrease teachers' self-efficacy.
4. Ethical concerns, such as privacy, plagiarism, and AI dependence will break the academic integrity (Alahmad, 2025).
5. Psychological and social issues, AI anxiety when fear of being replaced by machines, and feeling cheated if using AI (Fitri et al., 2025; Laoha et al., 2025).
6. Cultural and linguistic irrelevance, most of the AI tools are oriented to the Western perspective, it often fails to recognize local needs in developing countries in the EFL context (Safarli et al., 2025).

To overcome these obstacles, the recommendation strategies are also identified, which include:

1. Improving infrastructure and critical literacy, the institute must ensure alignment of AI tools and evaluate its content critically (Alahmad, 2025; Ozdemir & Mede, 2024).
2. Comprehensive teachers' PD, training of PD must be tiered and focus on AI-TPACK (Laoha et al., 2025), thus could towards language pedagogies meticulously.
3. Sustainable institutional support, the lead of the institute gives a vivid policy and sense of security for teachers in innovating (Fitri et al., 2025; Laoha et al., 2025).
4. Aligning AI with EFL pedagogy and curriculum, this is a must, not an add-on or optional solution. For instance, collaboration prompts writing or speaking practice (Crompton et al., 2024).
5. Affirming AI ethics and governance, for designing and transparency of AI use.
6. Collaborative approaches and peer mentoring, built a community who skilled teachers in AI, being a mentor for peer partners of other EFL teachers(Alahmad, 2025; Laoha et al., 2025)

Nexus between AI literacy and Teacher Readiness

There is a positive correlation between AI literacy and AI acceptance, which means that the higher the AI literacy of teachers, the more ready and confident to adopt AI in EFL learning (Alahmad, 2025). AI literacy could boost teachers' self-efficacy and decrease AI anxiety (Alahmad, 2025). Teachers' competence embraces readiness to face technical issues without feeling intimidated. Strong AI literacy could also determine teacher readiness beyond demographic factors (Alahmad, 2025). AI literacy is considered a predictor of teacher readiness, raising questions about what exactly it improves. Teachers with mature AI literacy are also increasing in professional aspects: pedagogy adaptations, efficiency and productivity, ethical awareness, and instructional creativity (Alahmad, 2025; Laoha et al., 2025). However, the risk arises as a consequence of superficial integration with less AI literacy. Without sufficient AI literacy, teachers merely peripherally use AI, are susceptible to AI dependency, unable to design learning activities deeply, and incompatible curriculum (Alahmad, 2025; Prihandoko et al., 2025).

Pedagogical and Institutional Implications

According to the presentation of findings and discussion, these results can be considered as implications for pedagogical and institutional. For teachers, moving from peripheral information transmission, wherewith promoting critical AI literacy to students, is irreplaceable in the thinking process. For the

institute, stop mere focus in available hardware support, but provide specific techniques and affirming policy in AI use with academic integrity and safety. Also include evaluating and revision that add AI-TPACK clearly in the academic curriculum and digital ethics as a modern professional competency standard.

Conclusion

Teacher readiness in the AI context is illustrated as a journey of transition of the teacher, moving from unfamiliar circumstances regarding AI capacity to gaining a clear perspective about technology. In language learning, specifically EFL, teachers are reported to have a positive perspective and attitude towards, but most of them are at a moderate to low level regarding readiness and AI literacy in integrations. Those determining factors refer to internal (self-efficacy and AI anxiety, performance expectancy, demographics, and digital literacy gap) and external factors (social environment and institutional). EFL teachers are facing challenges such as limited infrastructure, lack of institutional support, gaps in proficiency, ethical issues, psychological concerns, and cultural irrelevance. And the recommended solutions for handling the barriers are improving infrastructure and critical literacy, sustained PD and institutional supports, aligned AI thought pedagogical, affirming AI ethics and governance, and the last is collaborating with peer partners among EFL teachers. Previous studies also report the strong nexus of AI literacy and AI integration in language learning. Simply, without sufficient AI literacy, teachers merely peripherally use AI. These results are probably considered for educators and institutions to evaluate the use of AI in comprehension and a critical way in order to create a modern professional academic standard for current and future education. This research in this field can be advanced by adopting longitudinal design, using mixed methods, sociolinguistic implications, and comparing with a wider scope.

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