

**DEVELOPING AI LITERACY AMONG FUTURE ENGLISH TEACHERS IN
UZBEKISTAN BY AI-INTEGRATED TESOL TEACHER EDUCATION: TO A
CONTEXT-SENSITIVE FRAMEWORK FOR CRITICAL, ETHICAL, AND
PEDAGOGICAL AI USAGE**

Yusupova Marjona Botir qizi

Master's student in MA TESOL

Webster University in Tashkent.

Email: termiz3217@gmail.com

<https://doi.org/10.5281/zenodo.22754715>

Abstract. Lesson planning, materials development, language skills practice, and feedback and assessment can be provided by AI tools. Yet, more than technical familiarity with AI is required for effective usage. It is very necessary for future English teachers to understand AI limitations, clearly evaluate its inputs, ethical usage consideration, and appropriate pedagogical decision making. This paper concentrates on AI literacy in Uzbek TESOL teacher education and proposes a context-sensitive framework for its improvement. Based on recent survey on teacher AI competency and language-teacher GENAI literacy, AI literacy is conceptualized as a professional competence including AI knowledge, critical evaluation, pedagogical integration, ethical responsibility, and reflective judgment in this paper. This paper concentrates on international frameworks support a beneficial base but can not be transferred unchanged to Uzbekistan. In order to connect general AI competencies with the specific professional requirements of English language teaching and the realities of Uzbek teacher education A context-sensitive approach is necessary.

Keywords: AI pedagogy; AI literacy; future English teachers; generative AI; future English teachers; TESOL teacher education; artificial intelligence; ethical AI usage.

1. Introduction

Artificial intelligence (AI), especially generative AI (GenAI), is increasingly becoming a part of educational process. Lesson explanations, learning practices, different learning activities, feedback and assessment tasks can be generated by AI systems and, in turn, it creates new opportunities for English language teaching. Meanwhile, these improvements raise an essential question for teacher education: What methods and competencies do future English teachers need to utilize AI responsibly and pedagogically?

UNESCO's *AI Competency Framework for Teachers* identifies that AI ethics, AI foundations and applications, AI pedagogy, human-centred practice, and professional learning are considered as key parts of teacher competence. According to this framework, AI competence cannot be limited to operating technological tools. Pedagogical knowledge, ethical awareness, and professional judgment are also important for teachers.¹ This problem is especially essential in TESOL. For learners' English proficiency levels, their learning objectives, or cultural settings AI-generated language may be fluent but still inappropriate. AI feedback may involve inaccurate information or reproduce bias. Kohnke and Zou (2025) states the importance of critical, ethical, and pedagogically informed AI integration in TESOL teacher educational process.

¹ Miao, F., & Cukurova, M. (2024). *AI competency framework for teachers*. UNESCO.

AI literacy as a multidimensional competence is conceptualized in recent research similarly. Wang et al. (2025) emphasizes that knowledge, usage, assessment, design, and ethics as dimensions of EFL teachers' GenAI literacy. Huang et al. (2025) identifies that structured intervention enhances several aspects of GenAI literacy among pre-service language teachers. The findings, mentioned above, suggest that AI literacy can be intentionally developed by teacher education instead of leaving to individual experimentation.² Yet, existing models appear from diverse educational settings and cannot automatically be applied to Uzbekistan. Recent Uzbek research has begun to address AI literacy for pre-service teachers more generally, but the specific professional requirements of future English teachers need in-depth theories. Evaluating language quality, adopting materials for proficiency levels, designing communicative activities, supporting feedback and considering cultural representation are of great importance for English teachers (Nabhan & Habók, 2026; Kushki et al., 2026).

So, this paper raises a question: Which forms of AI literacy are essential for future English teachers and how can TESOL teacher education develop these skills in Uzbek context? This paper suggests a context-sensitive framework focused on pedagogical integration, human, professional judgement, critical assessment, and ethical responsibility.

2. Literature Review and Research Gap

AI literacy is significantly understood as more than technical ability. In teacher education process, it includes knowing what AI can and cannot perform, utilizing it appropriately, evaluating its outputs, and making informed decisions on its educational usage. UNESCO's framework reflects this broader view, while language-teacher research supports more specific dimensions appropriate to EFL teaching.

Critical evaluation is particularly essential for English teachers. An AI-generated lesson plan may be grammatically correct but unsuitable for a particular proficiency level of students. For instance, a reading text may include cultural assumptions, while automated feedback may not alternatively address the language learners' actual needs. As a result, teachers must evaluate AI-generated materials based on their accuracy, relevance, learner level, cultural representation, alignment with learning objectives, and bias.³

Ethical responsibility is equally essential, AI usage may contain questions of privacy, academic integrity, transparency, authorship, equity, and human accountability. As decisions about AI directly influence learners and their participation in educational processes, these concerns may not be treated separated from pedagogy (Kohnke et al., 2026).

Pedagogical judgment connects these aspects. The appropriate question is not simply if AI can perform a task, but whether utilizing AI contributes to a meaningful learning aim.

² Kohnke, L., & Zou, D. (2025). *Artificial intelligence integration in TESOL teacher education: Promoting a critical lens guided by TPACK and SAMR*. *TESOL Quarterly*, 59(S3), S267–S278. <https://doi.org/10.1002/tesq.3396>; Wang, Y., Derakhshan, A., & Ghiasvand, F. (2025). *EFL teachers' generative artificial intelligence (GenAI) literacy: A scale development and validation study*. *System*, 133, 103791. <https://doi.org/10.1016/j.system.2025.103791>; Huang, T., Wu, C., & Wu, M. (2025). *Developing pre-service language teachers' GenAI literacy: An interventional study in an English language teacher education course*. *Discover Artificial Intelligence*, 5, 163. <https://doi.org/10.1007/s44163-025-00435-1>

³ Wang, Y., Derakhshan, A., & Ghiasvand, F. (2025). *EFL teachers' generative artificial intelligence (GenAI) literacy: A scale development and validation study*. *System*, 133, 103791. <https://doi.org/10.1016/j.system.2025.103791>

An AI-literate instructor ought to be able to decide when AI is beneficial, how it should be adapted, and when it should not be utilized.⁴

Recent research shows that AI literacy is improving as a clear area of language teacher education. Yet, models differ in their definitions, components, participants, and settings. This makes direct transfer problematic. In Uzbekistan, the appearing literature demonstrates that AI literacy can be incorporated into teacher preparation, but future English teachers demand attention to language-specific professional practices. So, the research gap is not the absence of AI-literacy research in Uzbek education system. Instead, it is the need to conceptualize AI literacy especially as an aspect of future English teacher's professional competence within TESOL teacher education in Uzbekistan (Zhang et al., 2026). This paper applies that gap by bringing together general teacher AI competency, language-teacher-specific requirements, and the Uzbek educational setting.

3. Methodology

Conceptual and integrative literature-based approaches are adopted in this paper. Neither an empirical intervention is presented nor measured effects among participants are claimed.

Rather, recent research on teacher AI competency, GenAI literacy, and AI integration in language teacher education was examined and related to the professional requirements of English language teaching (Williams, 2026).

The analysis concentrates on three principles:

1. critical evaluation of AI outputs
2. ethical responsibility
3. pedagogical judgment

They are considered alongside foundational AI knowledge and operational competence.

The aim was to examine components that are alternative to teachers while also reflecting the particular requirements of TESOL and the Uzbek context. The resulting framework is conceptual instead of empirically validated. Its aim is to support a theoretically grounded basis for future curriculum development and empirical survey.

4. Suggested Framework for AI Literacy in Uzbek TESOL Teacher Education

The suggested framework defines AI literacy as a **professional decision-making capacity** instead of competence in utilizing special AI applications. It involves five closely connected components.

1. **AI knowledge and operational competence** shape the foundation. Future teachers should understand basic AI capabilities and limitations, interact effectively with AI systems, and recognize that generated data may be not accurate or complete enough.

2. **Critical evaluation** demands teachers to examine AI-generated materials instead of accepting them as authoritative and authentic. In TESOL, this involves checking language accuracy, proficiency level, cultural representation, relevance, bias, and alignment with learning objectives.⁵

⁴ Teacherness in the age of GenAI: An ethnographic exploration of pedagogical decision-making and AI integration in English language teaching. *System*, 136, 103877. <https://doi.org/10.1016/j.system.2025.103877>

⁵ Miao, F., & Cukurova, M. (2024). *AI competency framework for teachers*. UNESCO. <https://doi.org/10.54675/ZJTE2084>; Wang, Y., Derakhshan, A., & Ghiasvand, F. (2025). EFL teachers' generative artificial intelligence (GenAI) literacy: A scale development and validation study. *System*, 133, 103791. <https://doi.org/10.1016/j.system.2025.103791>

3. **Pedagogical integration** is associated with the educational aim of AI usage. Teachers ought to identify if AI genuinely provides language learning, communication, feedback, assessment, or learner autonomy. The availability of a tool does not by itself justify its usage.

4. **Ethical responsibility** includes privacy, academic integrity, transparency, equity, authorship, bias, and human accountability. Ethical AI usage demands teachers to consider not only what AI can perform but also if its usage is relevant to a special educational situation.

5. **Reflective professional agency** considers the teacher at the center of decision-making.

Future teachers ought to consider if AI enhances learning, reduces meaningful interaction, creates dependency, or introduces other issues. Human judgment, so, remains central.⁶

These components can be understood as an ongoing process:

Comprehend AI → Utilize AI → Evaluate AI → Integrate AI → Implement ethical judgment → Reflect and revise

The framework is not indicated as a proved measurement instrument. It is a conceptual model that demands further examination by research with future English teachers and teacher educators in Uzbekistan.

5. Discussion

The main result of the framework is that AI literacy ought to be comprehended as a type of **professional judgment**. Technical competence alone does not guarantee relevant AI usage. A teacher may generate a sophisticated lesson plan with AI but still utilize it inappropriately.

Conversely, an AI-literate teacher may decide not to utilize AI when direct interaction, independent learner production, or authentic communication is more beneficial (Eedelouei, 2026).

This standpoint also indicates the reason why critical, ethical, and pedagogical components ought to be considered together. When evaluating an AI-generated reading text, for instance, a teacher may simultaneously consider its linguistic accuracy, difficulty, cultural representation, bias, authorship, and its **appropriateness** to the lesson objective. AI literacy operates as integrated professional reasoning instead of as a list of separate technical abilities.⁷

Instead of ready-made solutions, international frameworks ought to be treated as basement for Uzbekistan. In order to support a context-sensitive approach their principles ought to be comprehend in the context of local teacher education, institutional conditions, linguistic practices, and classroom realities.

A change from tool-centred to competency-centred teacher education is provided by this framework. The framework also supports a shift from tool-centred to competency-centred teacher education. Particular AI applications will continue to shift, whereas the ability to comprehend, assess, adapt, and responsibly usage emerging technologies is likely to remain professionally appropriate. The objective, so, ought not to produce teachers who utilize more AI, but teachers who can identify when, how, and why AI need or need not to be used.

6. Implications for TESOL Teacher Education

AI literacy can be incorporated into existing TESOL courses instead of taught only as a separate technology topic.

⁶ Preparing pre-service teachers for responsible generative AI use: Curriculum implications for ethics, privacy, and AI literacy. (2026). *Computers & Education: Artificial Intelligence*. <https://doi.org/10.1016/j.caeai.2026.100617>

⁷ Daher, R. (2025). Integrating AI literacy into teacher education: A critical perspective paper. *Discover Artificial Intelligence*, 5, 217. <https://doi.org/10.1007/s44163-025-00475-7>

Future teachers can assess AI-generated lesson plans, materials, feedback, and assessment tasks and determine issues related to language accuracy, learner level, pedagogy, culture, and ethics.

Such activities can improve the professional judgment needed to transform AI-generated content into relevant teaching resources. Teacher education need also support changes to discuss privacy, academic integrity, transparency, unequal access, and dependence on AI (Lu, 2026).

The aim is not simply to raise AI usage. It is to prepare future English teachers who can utilize AI selectively, critically, ethically, and pedagogically.

7. Conclusion

Future English teachers professional environment is being changed by AI. Preparing them for this environment demands more than technical familiarity with GenAI. AI literacy need to be improved as a professional competence that integrates AI knowledge, critical evaluation, pedagogical judgment, ethical responsibility, and reflection (Gao & Wang, 2026).

This paper suggests a context-sensitive framework for enhancing these capacities in Uzbek TESOL teacher education. Its central discussion is that the educational value of AI depends not on the technology itself but on the quality of teachers' professional decisions surrounding its usage.

The framework stays conceptual and demands empirical validation. Future research must analyze its components by teacher-education courses, practicum experiences, and intervention studies in Uzbekistan.

References

1. Huang, T., Wu, C., & Wu, M. (2025). Developing pre-service language teachers' GenAI literacy: An interventional study in an English language teacher education course. *Discover Artificial Intelligence*, 5, 163. <https://doi.org/10.1007/s44163-025-00435-1>
2. Kohnke, L., & Zou, D. (2025). Artificial intelligence integration in TESOL teacher education: Promoting a critical lens guided by TPACK and SAMR. *TESOL Quarterly*, 59(S3), S267–S278. <https://doi.org/10.1002/tesq.3396>
3. Miao, F., & Cukurova, M. (2024). *AI competency framework for teachers*. UNESCO.
4. Wang, Y., Derakhshan, A., & Ghiasvand, F. (2025). EFL teachers' generative artificial intelligence (GenAI) literacy: A scale development and validation study. *System*, 133, 103791. <https://doi.org/10.1016/j.system.2025.103791>
5. Nabhan, S., & Habók, A. (2026). Language teachers' AI literacy: A psychometric study based on the ED-AI framework. *Computers and Education: Artificial Intelligence*, 10, 100583. <https://doi.org/10.1016/j.caeai.2026.100583>
6. Kohnke, L., Zou, D., Lai, C., & Gu, M. M. (2026). Preparing pre-service teachers for responsible generative AI use: Curriculum implications for ethics, privacy, and AI literacy. *Computers and Education: Artificial Intelligence*, 10, 100617. <https://doi.org/10.1016/j.caeai.2026.100617>
7. Williams, A. (2026). An integrated AI literacy framework for higher-education teachers: A critical review and conceptual synthesis. *Cogent Education*, 13(1), 2698137. <https://doi.org/10.1080/2331186X.2026.2698137>

8. Eedelouei, S. (2026). Factors influencing language teachers' judgements and decision-making about the use of generative AI tools: A systematic review. *Teaching and Teacher Education*, 171, 105333. <https://doi.org/10.1016/j.tate.2025.105333>
9. Lu, X., Zaitseva, A., & Troyan, F. J. (2026). AI literacy: A core practice in world language education. *Foreign Language Annals*, 59(1), 9–33. <https://doi.org/10.1111/flan.70037>
10. Zhang, Y., Qiu, X., & Wang, J. (2026). A systematic research synthesis of generative AI literacy in English language education. *Discover Artificial Intelligence*, 6, 1074. <https://doi.org/10.1007/s44163-026-02178-z>