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Mapping Pedagogical Readiness for AI Integration Using the UNESCO AI-CFT in Saudi EFL Higher Education

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Abstract
Artificial intelligence is increasingly shaping English language teaching in higher education, yet the pedagogical readiness of faculty members at Saudi universities remains underexplored. This study examined the readiness of faculty members teaching English as a foreign language to integrate artificial intelligence into their practice, using the United Nations Educational, Scientific and Cultural Organisation Artificial Intelligence Competency Framework for Teachers. It also identified priority areas for professional development. The study is significant because it offers a framework-based diagnostic perspective that can support institutional training and policy development in line with national digital transformation goals. A quantitative cross-sectional survey design was employed. Data were collected via purposive sampling from faculty members in the English Department; 61 of the 69 faculty members responded to a structured questionnaire. The instrument measured self-perceived competence, perceived importance, and expected frequency of artificial intelligence use across five competency aspects. Descriptive statistics, reliability analysis, and readiness-gap analysis were used. The findings showed that participants reported moderate competence and moderate expected use, while assigning relatively high importance to artificial intelligence-related practices. This produced a notable readiness gap across all aspects, with the strongest needs concentrated in ethical governance and human-centred pedagogical judgement. The study concludes that professional development should move beyond the use of technical tools to address the responsible, ethical, and pedagogically sound integration of artificial intelligence in language teaching.

Keywords: Artificial intelligence, English as a Foreign Language, faculty readiness, professional development, Saudi higher education, UNESCO- AI-CFT

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Introduction

Despite the increasing integration of artificial intelligence in higher education, a critical problem remains insufficiently addressed: many faculty members are expected to use artificial intelligence in teaching without clear evidence of their pedagogical readiness to do so responsibly, effectively, and ethically. This issue is particularly significant in English as a Foreign Language instruction, where artificial intelligence is increasingly used to generate instructional materials, provide automated feedback, support writing development, and personalise learning pathways. Although empirical evidence suggests that artificial intelligence can enhance efficiency, learner engagement, and access to resources (Al-Othman, 2024; Metwally & Bin-Hady, 2025), its pedagogical use also raises important concerns related to ethical governance, academic integrity, instructional quality, and the teacher's role in guiding meaningful learning.

Recent studies have increasingly framed the integration of artificial intelligence as a matter of pedagogical readiness rather than merely technological adoption. Luckin et al. (2022) introduced the concept of "AI readiness" as a contextualised model for understanding data-driven artificial intelligence in education. They argued that educators require preparation tailored to their specific teaching contexts rather than general exposure to artificial intelligence tools. This perspective highlights the need for pedagogically grounded and context-sensitive approaches to faculty preparation.

Subsequently, Zou et al. (2025) proposed a comprehensive pedagogic artificial intelligence competency framework comprising 12 essential competencies across four foundational areas and six pedagogic elements. While this model provides an important conceptual structure for educator development, the authors acknowledge that it remains primarily conceptual, as it was derived from a literature synthesis and professional expertise rather than empirical validation (Zou et al., 2025). This limitation underscores the need for empirical, context-specific studies that systematically map actual readiness patterns among faculty members.

In response to this need, the present study adopts the UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT) as its guiding framework. The AI-CFT was preferred over other models because it offers a more comprehensive and operational structure for examining teacher readiness. Unlike models that focus mainly on technology acceptance, perceptions, or general artificial intelligence literacy, the AI-CFT integrates five interrelated aspects of teacher competence: human-centred mindset, ethics of artificial intelligence, artificial intelligence foundations and applications, artificial intelligence pedagogy, and artificial intelligence for professional development. It also organises these aspects across progression levels, allowing readiness to be mapped in a more structured and educationally meaningful way.

A quantitative design was considered most appropriate for this study because the research aimed to generate a systematic profile of faculty members' current self-perceived competence, perceived importance, and expected frequency of artificial intelligence use across multiple competency dimensions. This approach enabled the study to identify patterns, compare readiness levels across framework aspects, and determine priority professional development needs using measurable indicators.

Accordingly, the main aim of this study is to examine Saudi EFL faculty members' pedagogical readiness for artificial intelligence integration using the UNESCO Artificial Intelligence Competency Framework for Teachers. The study is significant because it provides an empirically grounded, framework-based account of faculty readiness that can inform professional development, institutional planning, and policy discussions on the integration of artificial

intelligence in higher education. More specifically, the study seeks to map faculty members' self-perceived competencies across AI-CFT aspects and progression levels, and to identify priority professional development needs by examining the relationships among perceived importance, self-competence, and expected frequency of use.

In line with these objectives, the study addresses the following research questions:

1. What are Saudi EFL faculty members' self-perceived competencies across the AI-CFT aspects and progression levels?
2. Which training priorities emerge from combining perceived importance, self-competence, and expected frequency of AI use?

Literature Review

The UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT) offers a valuable starting point for understanding teachers' preparedness to integrate artificial intelligence, as it presents it as a multi-dimensional concept rather than just a matter of adopting technology. From this viewpoint, AI readiness pertains to how well educators are equipped to use artificial intelligence in pedagogically effective, ethically responsible, and professionally meaningful ways. This understanding is particularly significant in language education, where artificial intelligence influences not only instructional efficiency but also feedback quality, learner autonomy, authorship, assessment integrity, and the teacher's role in shaping academic practice. Recent research in EFL and academic writing has increasingly highlighted these broader pedagogical and ethical aspects, demonstrating that the educational value of artificial intelligence relies on human guidance, institutional responsibility, and critically informed application, rather than tool availability alone.

Recent international and regional research shows that many higher education instructors are beginning to use artificial intelligence for practical classroom purposes. Nevertheless, this use often remains concentrated in materials preparation, feedback support, and other operational tasks rather than deeper pedagogical design or ethical governance. Studies in different contexts suggest that educators generally recognise the potential of artificial intelligence, but their readiness remains uneven and often dependent on limited institutional support, prior digital experience, and access to training (Alnasib, 2023; Chan & Tang, 2025; Kohnke et al., 2023; Özer-Altınkaya & Yetkin, 2025). This pattern is particularly visible in EFL education, where artificial intelligence can support language practice and personalised feedback, but also raises questions about academic integrity, reliability, bias, and responsible use (Aljabr & Al-Ahdal, 2024; Al-Othman, 2024). Tran et al. (2025), for example, found that teachers primarily use generative AI for lesson preparation, content generation, and feedback, while continuing to face pedagogical and ethical challenges in classroom integration.

A recent systematic review of educator-focused research in English language classrooms reinforces this broader pattern. Reviewing 34 studies, Zaidi et al. (2026) found that the literature has primarily focused on pedagogical benefits, ethical concerns, and implementation challenges, while much of the work still emphasises the technical aspects of artificial intelligence rather than educators' classroom experiences. Their review also identified the ongoing need for professional development tailored to varying levels of educator competence, as well as for more structured frameworks for artificial intelligence-driven pedagogy and for more longitudinal research on integration. These findings suggest that the field has moved beyond initial curiosity about artificial

intelligence. However, it still lacks sufficiently developed models to explain how educators progress from awareness and interest to informed, responsible classroom use.

Within EFL settings, the literature also shows an important distinction between recognising the usefulness of artificial intelligence and being prepared to integrate it meaningfully into teaching. Several recent studies report that educators and learners appreciate artificial intelligence for its speed, accessibility, and capacity to provide individualised support. However, these same studies also raise concerns about over-reliance, reduced human interaction, weakened critical engagement, and the standardisation of language production. As Alzubaidi (2026) observes, current academic literature increasingly treats artificial intelligence in language education not merely as a technical innovation, but as a pedagogical and ethical issue connected to learner agency, academic literacy, and institutional guidance. This shift is important because it moves the discussion away from whether artificial intelligence is useful toward the more demanding question of how it should be integrated in ways that preserve educational purpose and human judgment.

The Saudi context reflects many of these international concerns, but with added significance given the country's strong orientation toward digital transformation in higher education. Recent Saudi studies generally indicate that faculty members and students view artificial intelligence positively and see it as potentially beneficial for teaching and learning (Alammari, 2024; Aljabr & Al-Ahdal, 2024; Al-Zahrani & Alasmari, 2024). At the same time, this positive orientation should not be taken as evidence of comprehensive pedagogical readiness. Much of the Saudi literature has concentrated on attitudes, perceptions of usefulness, or general readiness, while giving less attention to how readiness varies across specific domains of teacher competence. Alnasib (2023) addressed faculty readiness in Saudi higher education. However, the analysis remained broad and was not organised within a teacher competency framework that clearly differentiates among ethical, pedagogical, technical, and professional dimensions. Similarly, Al-Zahrani and Alasmari (2024) examined the educational, social, and ethical implications of artificial intelligence in higher education. However, their focus was broader than the specific question of pedagogical readiness in EFL teaching.

Altamimi (2025) examined AI integration in EFL classrooms at Haql College through qualitative interviews with 12 lecturers. The study found that lecturers perceived artificial intelligence as potentially beneficial for student engagement, motivation, and language proficiency, but also reported substantial barriers, including outdated infrastructure, inadequate technical support, insufficient professional development, and difficulty aligning artificial intelligence tools with existing curricula. These findings are important because they show that a lecturer's interest in artificial intelligence does not automatically translate into readiness for sustained instructional integration. Rather, readiness appears to be shaped by a combination of institutional conditions, professional preparation, and curricular flexibility. In this sense, the Saudi literature does not simply point to positive attitudes alongside isolated challenges; it suggests a more fundamental imbalance between the perceived promise of artificial intelligence and the conditions needed for its pedagogically coherent use.

The literature, therefore, reveals both a conceptual and a methodological gap. Conceptually, many studies have focused on attitudes, acceptance, perceived usefulness, or broad readiness. However, fewer have examined readiness through a structured framework that captures self-perceived competence across defined pedagogical and ethical domains. Methodologically, a large proportion of existing research remains survey-based, exploratory, or perception-oriented. At the same time, relatively few studies systematically map readiness across progression levels or

combine multiple indicators to identify priority areas for professional development. As Zaidi et al. (2026) note, the field still needs more structured pedagogical frameworks, more attention to educators' real classroom experiences, and more research capable of distinguishing among different levels and dimensions of competence.

Although the need for targeted professional development has been recognised (Metwally & Bin-Hady, 2025), studies that systematically map Saudi EFL faculty members' pedagogical artificial intelligence competencies across clearly defined framework-based aspects and progression levels remain limited. More specifically, the literature has not adequately examined how self-perceived competence, perceived importance, and expected frequency of use interact to produce differentiated training priorities. This is an important omission because professional development planning requires more than identifying whether educators are positive or negative about artificial intelligence; it requires understanding where they feel least prepared, which areas they consider most important, and which competencies are most likely to be needed in practice.

To address this gap, the present study employs the UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT) to map faculty members' self-perceived competencies, progression levels, and training priorities. By integrating self-competence, perceived importance, and expected frequency of use, the study seeks to provide a more precise account of pedagogical readiness than studies that focus primarily on attitudes or technological acceptance. In doing so, it aims to contribute evidence that can inform institutional policy, professional development planning, and broader efforts to align faculty preparedness with national digital transformation agendas.

Method

A quantitative cross-sectional survey design was employed because the purpose of the study was to examine faculty members' pedagogical readiness for integrating artificial intelligence at the time of data collection. A cross-sectional design was therefore appropriate for readiness mapping, as it allowed the researcher to capture a systematic profile of participants' self-perceived competence, perceived importance, and expected frequency of use across multiple competency dimensions, and to identify current areas of relative strength and training need within the population (Creswell & Guetterman, 2024).

Participants

The study used purposive sampling to target faculty members in the English Department, as they constituted the population most directly relevant to the study. The department included 69 faculty members, and 61 responded to the survey. Accordingly, the sample was drawn from a single institutional setting rather than from multiple Saudi higher education institutions. The respondents represented diverse academic ranks, including professors, associate professors, assistant professors, lecturers, and language instructors, and came from different disciplinary specialisations, including Applied Linguistics, English Literature, TESOL, and Translation. This diversity allowed representation of a range of pedagogical roles within the department. Nevertheless, because purposive sampling is a non-probability sampling technique and the study was conducted within one departmental context, the findings are interpreted as context-specific. They should not be generalised uncritically to all Saudi EFL faculty members.

Research Instruments

Data were collected using a structured questionnaire developed in alignment with the UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT) (UNESCO, 2024). The AI-CFT provides an internationally recognised framework for understanding teacher readiness for artificial intelligence integration across five interrelated aspects: (A) human-centred mindset (human agency, accountability, and social responsibility), (B) ethics of AI (ethical principles, safe and responsible use, and co-creating ethical rules), (C) AI foundations and applications (basic techniques, applied skills, and creating with AI), (D) AI pedagogy (AI-assisted teaching, AI–pedagogy integration, and AI-enhanced pedagogical transformation), and (E) AI for professional development (AI-enabled lifelong learning, organisational learning enhancement, and professional transformation); and three progression levels: Acquire, Deepen, and Create. These dimensions guided the design and organisation of the instrument.

The questionnaire measured three parallel readiness dimensions across these five aspects: self-perceived competence, perceived importance of AI pedagogical practices, and expected frequency of AI use. Consistent with best practices in educational scale development, all items were rated on a five-point Likert scale, enabling the identification of structured readiness profiles and priority professional development needs within and across AI-CFT competency aspects.

Content and construct validity of the research instrument were established through alignment with the UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT), which provides an internationally recognised structure of AI pedagogical competencies and progression levels (UNESCO, 2024). All questionnaire items were systematically mapped to the five AI-CFT competency aspects and their Acquire–Deepen–Create progression levels to ensure comprehensive representation of the aspects and conceptual coherence.

A pilot review by subject-matter experts in EFL pedagogy and educational technology was conducted to examine item clarity, relevance, and representativeness, and minor wording refinements were made accordingly.

Internal consistency reliability was examined using Cronbach's alpha. The Self-Competence scale demonstrated excellent reliability ($\alpha = .94$), and the Expected Frequency of Use scale also showed excellent reliability ($\alpha = .91$). The Perceived Importance scale demonstrated acceptable internal consistency ($\alpha = .80$). These coefficients exceed the minimum recommended threshold of .70, indicating satisfactory reliability for research purposes.

Together, these procedures provide evidence that the instrument demonstrates adequate content validity, construct alignment, and internal consistency reliability for assessing Saudi EFL faculty members' AI pedagogical readiness within the AI-CFT framework.

Ethical Considerations

This study was conducted in accordance with the ethical standards governing research involving human participants. Prior to data collection, formal ethical approval was obtained from the Standing Committee for Scientific Research Ethics (Approval No. TU-EDU-2025-10-002). Participation was voluntary, and all participants were informed of the study's purpose, the nature of their involvement, and their right to withdraw at any time without penalty. Informed consent was obtained electronically before administering the questionnaire. To ensure confidentiality and anonymity, no identifying personal information was collected, and all responses were securely stored and used solely for research purposes.

Data Analysis

Data were analysed using descriptive and diagnostic statistical procedures appropriate for needs-analysis research in educational contexts. Preliminary data screening was conducted to ensure data completeness and accuracy. Composite indices were computed for each of the three measured constructs: self-perceived competence, perceived importance, and expected frequency of AI use, by averaging participants' responses across items corresponding to each AI-CFT pedagogical aspect.

To address the first research question, descriptive statistics, including means and standard deviations, were calculated to profile faculty members' self-perceived competencies across the five AI-CFT aspects and to identify relative strengths and areas of limited pedagogical preparedness.

To address the second research question, professional development priorities were identified through both a readiness-gap analysis and a weighted-urgency metric (Borich,1980; McKim & Saucier, 2011). First, readiness gap scores were calculated for each AI-CFT aspect by subtracting self-competence scores from perceived importance scores (Importance – Self-Competence). Second, a Training-Priority Index (TPI) was computed to integrate readiness gaps with anticipated instructional urgency, using the following formula:

TPI=(Perceived Importance - Self-Competence)× Expected Frequency of Use

Higher TPI values indicate competency aspects that are simultaneously underdeveloped yet expected to be utilised frequently in instructional practice, thereby representing higher institutional training priorities. All statistical analyses were conducted using standard statistical software, and results were interpreted using conventional benchmarks for Likert-scale data in educational research.

Research Procedures

After obtaining ethical approval, the questionnaire was designed in alignment with the UNESCO Artificial Intelligence Competency Framework for Teachers and refined through expert review to enhance clarity and relevance. During the first semester of the 2025/2026 academic year, purposive sampling was used to target faculty members in the English Department, as they represented the population most directly relevant to the study. The questionnaire was distributed to the department's 69 faculty members, and 61 responses were received.

Before completing the questionnaire, participants received information about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without penalty, and they provided electronic consent before taking part. After data collection, the researcher checked the responses for completeness and prepared them for statistical analysis. Composite scores for self-perceived competence, perceived importance, and expected frequency of artificial intelligence use were then calculated across the five AI-CFT aspects and used to identify readiness patterns, readiness gaps, and priority areas for professional development.

Results

Overall AI Pedagogical Readiness

Faculty members' overall AI pedagogical readiness is summarised in Table 1. Participants reported a moderate level of self-perceived competence (M = 2.44, SD = 0.78) and moderate expected frequency of AI use (M = 2.58, SD = 0.69). In contrast, perceived importance of AI pedagogical practices was relatively high (M = 3.06, SD = 0.43).

Table 1. *Overall AI pedagogical readiness indices*

Scale	M	SD
Self-Competence	2.44	0.78
Importance	3.06	0.43
Expected Frequency	2.06	0.69
Readiness Gap	+0.62	-

The comparison between perceived importance and self-competence revealed a substantial readiness gap (M = +0.62), indicating that faculty members generally value AI-supported pedagogy more highly than they feel prepared to implement it.

Self-Perceived Competence Across AI-CFT Aspects

Aspect-level self-perceived competence profiles aligned with the UNESCO AI-CFT are presented in Table 2. Faculty members reported the highest levels of competence in AI for Professional Development (E) (M = 2.60, SD = 0.81), indicating moderate readiness to participate in communities of practice, share AI pedagogical resources, and engage in reflective professional learning. This was followed by AI Pedagogy (D) (M = 2.47, SD = 0.89) and AI Foundations and Applications (C) (M = 2.46, SD = 0.81), reflecting emerging competence in integrating AI into classroom feedback cycles, learning design, and task-appropriate tool selection.

Lower competence levels were observed in the more governance- and values-oriented aspects. Human-centred Mindset (A) recorded comparatively lower competence (M = 2.36, SD = 1.00), suggesting limited preparedness to frame the pedagogical roles of AI, establish classroom AI norms, and support diverse learners. The lowest self-perceived competence was found in Ethics of AI (B) (M = 2.32, SD = 0.92), indicating notable gaps in privacy awareness, authorship transparency, misuse prevention, and assessment integrity management.

Table 2. *Self-perceived competence across AI-CFT aspects*

AI-CFT Aspect	M	SD	Readiness Level
A- Human-centered mindset	2.36	1.00	Early–Intermediate
B- Ethics of AI	2.32	0.92	Early–Intermediate
C- AI foundations & applications	2.46	0.81	Intermediate
D- AI pedagogy	2.47	0.89	Intermediate
E- AI for professional development	2.60	0.81	Intermediate

Collectively, these findings indicate that faculty members are more confident in operational and professional-learning uses of AI than in ethical governance and human-centred pedagogical judgment, placing overall readiness primarily at the early–intermediate progression stages of the AI-CFT.

Expected Frequency of AI Use

The expected frequency of AI use for faculty members across the UNESCO AI-CFT competency aspects is presented in Table 3. Overall, anticipated AI use clustered within a moderate range across all five aspects, indicating emerging but not yet fully embedded instructional adoption.

The highest expected frequency was reported for AI Foundations and Applications (C) (M = 2.75, SD = 0.78) and AI Pedagogy (D) (M = 2.72, SD = 0.94). These aspects encompass competencies related to selecting appropriate AI tools for language learning tasks, designing AI-supported instructional activities, integrating AI into feedback cycles, and aligning AI use with

course learning outcomes. The results suggest that faculty members are most inclined to utilise AI for classroom-level instructional design and to enhance teaching practice.

Moderate expected use was observed in AI for Professional Development (E) (M = 2.50, SD = 0.73). Ethics of AI (B) (M = 2.49, SD = 0.83), indicating that although professional learning and ethical governance are recognised as relevant, they are not yet perceived as routine components of day-to-day teaching practices.

The lowest expected frequency was recorded for Human-centred Mindset (A) (M = 2.47, SD = 0.91). This suggests that practices involving pedagogical judgment, human–AI role negotiation, learner autonomy framing, and co-construction of responsible AI norms are least likely to be regularly enacted, reflecting limited institutional embedding of values-oriented AI pedagogy.

Table 3. *Expected frequency of AI use across AI-CFT aspects*

AI-CFT Aspect	M	SD	Practice Orientation
A- Human-centered mindset	2.47	0.91	Low–Moderate
B- Ethics of AI	2.49	0.83	Moderate
C- AI foundations & applications	2.75	0.78	High
D- AI pedagogy	2.72	0.94	High
E- AI for professional development	2.50	0.73	Moderate

In sum, these findings indicate that faculty members' anticipated AI use is currently concentrated in operational instructional applications rather than governance- and mindset-oriented pedagogical transformation practices.

Readiness Gaps and Training Priorities

To identify priority professional development needs, readiness gaps, and weighted training priorities, calculations were made for each UNESCO AI-CFT aspect using both gap analysis and the Training-Priority Index (TPI). Positive gap values were observed across all five aspects, indicating that perceived importance consistently exceeded current self-perceived competence.

As shown in Table 4, the Ethics of AI (B) aspect recorded the largest readiness gap (0.84) and the highest TPI value (2.10), ranking it as the most urgent institutional training priority. This finding reflects substantial deficiencies in privacy awareness, academic integrity management, misuse prevention, and ethical authorship practices, combined with moderate anticipated frequency of use.

The Human-centred Mindset (A) aspect ranked as the second-highest priority (TPI = 1.88), indicating limited preparedness in pedagogical judgment, learner autonomy framing, accessibility-sensitive task design, and classroom AI norm co-construction. These two aspects collectively highlight critical needs in governance and values-based pedagogical competencies.

Secondary training priorities were observed in the AI Pedagogy (D) aspect (TPI = 1.74) and the AI Foundations and Applications (C) aspect (TPI = 1.59). While faculty members anticipate frequent instructional use of AI in these aspects, moderate competence gaps persist, suggesting the need for structured pedagogical training beyond basic tool familiarisation.

The lowest training urgency was observed in the AI for Professional Development (E) aspect (TPI = 0.66), indicating comparatively stronger readiness in professional learning and collaborative knowledge-sharing practices.

Table 4. *Training priority index (TPI) based on AI-CFT competency domains*

AI-CFT Aspect	Gap (IMP–SC)	Expected Frequency	TPI	Priority
B-Ethics of AI	0.84	2.49	2.10	1
A-Human-centered mindset	0.76	2.47	1.88	2
D-AI pedagogy	0.64	2.72	1.74	3
C-AI foundations & applications	0.58	2.75	1.59	4
E- AI for professional development	0.27	2.50	0.66	5

Overall, the TPI results demonstrate that Saudi EFL faculty members' most critical professional development needs are concentrated in ethical governance and human-centred pedagogical judgment, rather than in purely technical or operational uses of AI.

Discussion

This study improves understanding of AI pedagogical readiness by applying the UNESCO AI Competency Framework for Teachers (AI-CFT) as a diagnostic tool to assess Saudi EFL faculty members' position in the global digital education shift. Unlike earlier perception-based studies, which mainly record attitudes or overall acceptance, this research offers a competency mapping aligned with the framework that exposes structural readiness differences across ethical, pedagogical, and professional areas of AI integration.

This study addressed two research questions regarding Saudi EFL faculty members' pedagogical preparedness to integrate artificial intelligence. The first question examined faculty members' self-perceived skills across the aspects and progression levels of the UNESCO Artificial Intelligence Competency Framework for Teachers (AI-CFT). Results indicated that participants generally rated their competence as moderate (M = 2.44, SD = 0.78), with aspect-specific means ranging from 2.32 to 2.60. The highest self-reported competence was in AI for Professional Development (M = 2.60, SD = 0.81), followed by AI Pedagogy (M = 2.47, SD = 0.89) and AI Foundations and Applications (M = 2.46, SD = 0.81). The lowest scores were in Ethics of AI (M = 2.32, SD = 0.92) and Human-centred Mindset (M = 2.36, SD = 1.00). These findings suggest that faculty members are primarily at the early-to-intermediate stages of AI readiness rather than at more advanced levels of pedagogical change.

The second research question explored which training priorities arose from combining perceived importance, self-confidence, and expected frequency of use. The results revealed that participants generally regarded AI-related pedagogical practices as quite important (M = 3.06, SD = 0.43) but reported lower confidence in their abilities (M = 2.44, SD = 0.78), leading to a notable overall readiness gap (+0.62). This pattern suggests that faculty members see artificial intelligence as significant for teaching, but do not feel equally prepared to implement it. The most pressing areas for professional development were Ethics of AI and Human-centred Mindset, indicating that the most critical training needs centre on ethical judgment, accountability, and human-centred pedagogical decision-making rather than basic operational skills.

These findings refine current perceptions of faculty readiness within the Saudi context. Previous Saudi research has generally noted positive attitudes towards artificial intelligence and a broad interest in its educational potential (Alammari, 2024; Aljabr & Al-Ahdal, 2024; Al-Zahrani & Alasmari, 2024), but the present findings indicate that readiness varies across different competency areas. Rather than representing a single overall level of preparedness, the data reveal clear internal disparities: participants expressed higher confidence in professional learning and pedagogical application, but considerably lower confidence in ethical governance and human-

centred aspects. This expands on Alnasib's (2023) exploration of faculty readiness by suggesting that readiness should be viewed as differentiated across domains, rather than as a singular overall condition. It also aligns with the broader pattern observed in international studies, beginning with educators typically start by using artificial intelligence to meet immediate classroom needs before developing more robust pedagogical and ethical frameworks for its application (Kohnke et al., 2023; Özer-Altınkaya & Yetkin, 2025). As the literature review highlighted, many instructors initially focus on practical and operational uses of AI, while deeper governance-related skills tend to be less developed.

The pattern observed here also helps explain the current form of artificial intelligence integration in EFL teaching. The relatively higher scores in AI Foundations and Applications (M = 2.46) and AI Pedagogy (M = 2.47), along with moderate expected use, suggest that faculty members mainly see artificial intelligence as a tool for instructional support, content preparation, and improving classroom efficiency. This interpretation directly follows from the relative strength of these areas compared to Ethics of AI and Human-centred Mindset, which remain the weakest areas. In this respect, the results align with Tran et al. (2025), who found that teachers most frequently use generative artificial intelligence for lesson preparation, generating instructional materials, and providing feedback, particularly as a means of saving time and supporting idea development, while continuing to face challenges related to pedagogical alignment and content reliability. They also align with the broader trend outlined in the literature review, in which AI adoption in higher education often begins with functional enhancements rather than comprehensive pedagogical redesign (Chan & Tang, 2025; Zaidi et al., 2026). Therefore, the present findings suggest that Saudi EFL faculty are engaging with artificial intelligence mainly at the operational level rather than pursuing extensive pedagogical transformation.

The weak results in Ethics of AI and Human-centred Mindset are particularly significant. These two aspects were not only the lowest in self-perceived competence but also the top priorities for training. This indicates that the most notable gaps in readiness were found in domains most directly linked to responsible use, accountability, learner agency, and pedagogical judgment. The finding aligns with Al-Othman's (2024) emphasis on ethical issues in EFL classrooms. Also, it mirrors the broader trend in recent literature, which increasingly views artificial intelligence in language education not just as a technical innovation but as a pedagogical and ethical challenge. As Alzubaidi (2026) observes, the current academic literature increasingly connects artificial intelligence in language education to authorship, learner autonomy, academic integrity, and institutional responsibility. In this context, the low competence and high training priority assigned to these areas in the present study suggest not just isolated weaknesses but a deeper imbalance between the perceived usefulness of artificial intelligence and the conditions necessary for its responsible integration into pedagogy.

This imbalance also highlights a broader institutional concern. When Ethics of AI and Human-centred Mindset emerge as the weakest competency areas and the strongest areas of training need, the issue extends beyond individual skills. It suggests that governance-related competencies have not yet been sufficiently internalised in practice. While previous Saudi studies have emphasised positive perceptions and perceived usefulness (Aljabr & Al-Ahdal, 2024; Al-Zahrani & Alasmari, 2024), recent EFL-focused research indicates that institutional policies and structured professional development for the ethical and pedagogical use of AI remain limited despite increasing classroom adoption (Al-Othman, 2024). The present findings therefore point to a risk that artificial intelligence may expand in classroom practice before ethical, accountability,

and pedagogical frameworks are fully stabilised. This concern aligns with Luckin et al. (2022) and Zou et al. (2025), both of whom argue that readiness for artificial intelligence in education requires more than technical familiarity; it demands context-sensitive, pedagogically grounded, and ethically informed preparation.

The findings also closely align with recent reviews focused on educators and contextual evidence from Saudi Arabia. Zaidi et al. (2026), in their systematic review of 34 studies, found that the literature has focused on pedagogical benefits, ethical concerns, and implementation challenges, while still lacking sufficiently developed frameworks for AI-driven pedagogy and professional development tailored to educators' varying levels of competence. The present study supports this conclusion empirically by showing that faculty members value artificial intelligence but remain underprepared in the ethical and human-centred competencies necessary for responsible use. Similarly, Altamimi (2025) found that Saudi EFL lecturers perceived artificial intelligence as potentially beneficial for student engagement and language learning, while also reporting significant barriers related to infrastructure, training, and curriculum alignment. The present findings complement this study by demonstrating that even when faculty recognise the value of artificial intelligence, their readiness remains limited by uneven competence across domains, particularly in areas requiring ethical and pedagogical judgment.

Taken together, these findings have implications for professional development and institutional planning. Because the greatest training needs appeared in Ethics of AI and Human-centred Mindset, professional development should not focus solely on tool familiarisation or technical experimentation. Instead, institutions need structured programmes that help faculty address authorship transparency, academic integrity, privacy, learner autonomy, accessibility, and the responsible boundaries of artificial intelligence use in teaching. This implication aligns with the gap identified in the literature review: many existing studies focus on attitudes, acceptance, or general readiness, but fewer provide framework-based accounts that identify where competence is weakest and where support is most urgently needed. In this respect, the present study offers a more precise account of faculty readiness by showing not only whether Saudi EFL faculty members feel prepared, but also where readiness is strongest and weakest, and which areas should be prioritised for future professional development.

Conclusion

This study aimed to assess Saudi EFL faculty members' pedagogical readiness for artificial intelligence integration using the UNESCO Artificial Intelligence Competency Framework for Teachers and to identify priority areas for professional development. The findings revealed that although faculty members considered artificial intelligence important for teaching, their self-assessed competence remained lower, creating a significant readiness gap. The most urgent needs were identified in Ethics of AI and Human-centred Mindset, indicating that responsible and human-centred integration is less developed than operational or instructional use. The study therefore underscores the value of a framework-based approach for pinpointing areas of strong readiness, weaknesses, and those that should be prioritised in professional development planning.

The study has several limitations. It relied on a relatively small sample drawn from a single departmental context, which restricts wider generalisation. It also employed descriptive rather than inferential analysis, as the aim was to map readiness patterns and training priorities rather than test statistical relationships. Furthermore, the findings are specific to the Saudi EFL higher education

context and should be interpreted accordingly. Since the data were based on self-reported perceptions, they might not fully reflect actual classroom practice.

Future research could deepen these findings through mixed-methods studies that combine survey data with interviews or focus groups, as well as classroom-based observations, to explore how readiness is demonstrated in practice. Multi-institutional and longitudinal studies would also help provide a broader, more developmentally profound understanding of faculty readiness for the integration of artificial intelligence.

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