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Formation of Ethical Competences for AI Use in English Foreign Language Teachings

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ABSTRACT: As artificial intelligence (AI) has become increasingly significant in education, the lack of teacher readiness continues to hinder its effective use in language teaching in Kazakhstan. This study aims to address this gap by exploring EFL teachers' experiences with AI integration and assessing their ethical competences. Using a mixed-methods approach, quantitative and qualitative data from survey and semi-structured interviews (further coded, and thematically analyzed) were collected from 60 English language teachers from different universities in Kazakhstan. The results indicated that language teachers were least confident in ethical use of AI in language teachings. The findings revealed the finalized six main ethical competences and 24 sub-competences, including (i) AI literacy competence, (ii) pedagogical and technical competence, (iii) assessment and reflection competence, (iv) facilitation of student autonomy competence, (v) professional and legal ethics competence, and (vi) responsibility and accountability competence. These competences offer a framework for developing future EFL teaching and learning programs that maximize AI's benefits while addressing potential ethical challenges.

Keywords: Artificial Intelligence, AI Integration, Ethical Competences, Language Teaching, Foreign English Language.

I. INTRODUCTION

As Artificial Intelligence (AI) technologies continue to evolve; their influence on education has become increasingly pronounced [1-3]. AI-powered applications are transforming traditional classrooms, offering interactive and adaptive learning environments tailored to individual student needs [3-5]. Language teaching, specifically English as a Foreign Language (EFL), is an area where AI has made substantial impact, introducing tools such as automated language assessment systems [6], chatbots for conversation practice [7], and natural language processing for vocabulary development [8]. For example, Kazu and Kuvvetli [9] developed an AI-supported pronunciation model tailored to Turkish students, enabling them to practice, record, and receive feedback on their pronunciation. This system significantly improved students' word retention and enhanced their ability to learn consonant and vowel sounds. In another study, Dizon and Gayed [10] investigated the impact of grammar in English language teaching and learning (ELT/L) in higher education, discovering that students using the AI-powered tool made fewer grammatical errors and demonstrated greater lexical diversity than those who did not use the tool. Similarly, Nazari et al. [11] explored Grammarly's role as a feedback tool for English learners.

Zheng et al. [12] studied how vocabulary acquisition in reading can occur through quest-based gaming in English, where a Japanese student interacted with an English-speaking player.

For teachers, particularly language teachers, integrating artificial intelligence into their classrooms requires not only technical proficiency but also a strong foundation in ethical competences [13]. A recent UNESCO survey reported that less than 10% of educational institutions have formal policies on generative AI applications [14, 15]. The literature emphasizes the importance of competences for educators, including managing AI applications, creating content, and critically evaluating AI-supported activities [16-18]. Without addressing these challenges, the potential benefits of AI in education may remain constrained, especially in countries like Kazakhstan, where teacher readiness and ethical competences are underdeveloped [19, 20].

Kazakhstan has experienced rapid modernization and digital transformation in education [21]. The integration of AI into language teaching presents both opportunities and challenges. In Kazakhstan, many teachers are unfamiliar with AI tools, and even fewer have a clear understanding of the ethical implications associated with their use. This creates a pressing need to identify and develop competences (in particular, the ethical one) that can guide teachers in making informed decisions about AI use. Addressing this gap not only helps enhance teaching practices but also ensures that AI is used responsibly, aligning with educational goals and ethical standards. It is highly significant as research on teacher competences for AI integration is still underdeveloped in the Kazakhstani context.

For English language teachers to effectively integrate AI into curriculum teaching, they need a robust set of ethical competences that includes both the knowledge and skills essential for guiding AI use responsibly and ethically. Prior research has underscored that effective AI education hinges on teachers' broad-based competences, as seen in studies on teacher professionalism [22, 23]. However, current professional development programs often focus on content areas, with limited attention paid to ethical competences [24, 25]. Recent research has revealed a lack of empirical studies focusing specifically on the skills required for AI integration into language teaching, further emphasizing the necessity of this study [26, 27].

Moreover, existing studies often rely on theoretical frameworks and literature reviews without supporting the real teaching practices, which may reduce their perceived relevance to teachers' actual experiences [25, 28]. Addressing this gap by identifying competences directly from practical teaching experiences can enhance the relevance and applicability of AI education initiatives for teachers [29-32]. Investigating the ethical competences needed by EFL teachers in Kazakhstan to integrate AI responsibly into language teaching could provide new insights, helping to inform global best practices in AI education [29, 31, 32]. Accordingly, this study aims to answer two primary questions:

- RQ1: What are the ethical perceptions of English language teachers regarding the use of AI in the English language teaching?
- RQ2: What set of ethical competences is essential for Kazakhstani English language teachers to effectively utilize AI in curriculum development?

II. LITERATURE REVIEW

1. COMPETENCES IN AI EDUCATION

Since the first work by Touretzky et al. [33] on competences, researchers have increasingly focused on identifying the general skills and competences necessary for both teachers and students in the field of AI education [27]. This body of literature has primarily categorized competences into two main groups: first- and teacher-focused [34, 35]. In particular, teachers need to continuously update their competences to effectively use AI in the curriculum. This provides a deeper understanding of artificial intelligence, familiarization with AI-based tools and techniques, and the ability to develop these competences in students [14, 15, 36].

However, the literature has also highlighted the need for a more contextualized understanding of these competences, particularly in non-Western educational settings such as Kazakhstan. Understanding the gap between current teaching competences in AI and the required components of knowledge, skills, and attitudes could significantly enhance teacher performance, ultimately benefiting student learning outcomes [31, 32, 37].

In terms of student-focused competences, Ng et al. [36] developed an AI literacy framework for children that includes four key aspects: (1) Knowing and Understanding AI, (2) Using and Applying AI, (3) Evaluating and Creating AI, and (4) AI Ethics. Based on Bloom's taxonomy, this framework identifies six stages of AI literacy, each of which must be mastered sequentially. Long and Magerko [38] proposed a framework based on a multidisciplinary literature review outlining 17 competences and 15 design principles. These principles were organized around key questions such as: What is AI? What can AI do? How does AI work? How should AI be

used? Similarly, Ng et al. [39] proposed a model focusing on three main areas of competence for students in AI education: knowledge, team, and learning, each with two sub-competences. These frameworks highlight the importance of understanding and applying AI principles, which also serve as foundational elements for teachers designing an AI curriculum [40-42].

Regarding teacher-focused competences for integrating AI into the curriculum, research has mainly emphasized the importance of AI knowledge, technology use, and teaching practices. The most commonly used TPACK framework is employed to organize these competences, addressing content, pedagogical, and technological knowledge [43]. According to Edwards et al. [44], skilled teachers are competent in selecting and designing AI-based instructional activities, assessing student progress, and providing both emotional and cognitive support through AI technologies [44]. Sun et al. [45] developed training sessions to improve AI teaching competences for K–12 teachers, utilizing the TPACK AI framework, which is grounded in the "five big ideas about AI" proposed by [45]. Another study [27] examined the AI curriculum and recommended ten core competences essential for preparing effective learning environments, such as foundational AI knowledge, computer skills, and proficiency with ICT tools and educational software.

Recent research has also highlighted the growing need for teacher training programs to incorporate ethical competences along with technical and pedagogical skills, especially in diverse educational contexts. Table 1 provides a summary of the common teacher-led competences identified in the literature on AI use in education. These competences provide a foundation for guiding AI instruction and using AI technologies within educational contexts [46, 47].

Table 1. Teacher-Focused Competences in AI Education.

Competency	Statement	References
Develops Practical AI Skills	Demonstrates practical skills in applying AI concepts.	[22], [26], [27]
AI for Professional Development	Leverages AI for continuous professional growth.	[22], [26], [27]
Designs AI-Integrated Learning Experiences	Creates learning experiences enhanced by AI integration.	[27], [30], [36], [42]
Cultivates AI-Facilitated Inclusive Learning	Promotes inclusivity through AI-driven learning tools.	[27], [30], [36], [42]
Autonomy	Encourages student independence using AI resources.	[13], [27], [30], [36], [42]
Knowledge of Ethics Code and Laws	Understands and applies ethical standards in AI usage.	[27], [30], [36], [42]
Ensures Equity and Inclusion	Prioritizes fairness and inclusion in AI applications.	[46], [48]
Ensures Safety	Protects child safety in AI-related activities.	[27], [30], [42]
Accountability	Upholds responsibility and transparency in AI practices.	[15], [46], [49]
Protects Data Privacy	Safeguards personal data in AI processes.	[13], [27], [30], [42]
Practices Transparency	Maintains openness about AI operations and decisions.	[27], [30], [42]
Bias Mitigation	Actively works to reduce biases in AI systems.	[49], [50]
Cultural Sensitivity	Shows awareness and respect for cultural differences in AI usage.	[32], [46], [50-52]

In our initial investigation round, we identified four key ethics guidelines, reports, and policy documents published after 2015, each offering a broad framework or guidelines for regulating AI applications in education. These included documents from the Institute for Ethical AI in Education (IEAIED) Interim Report (2020), World Economic Forum (2019), UNICEF (2020), and UNESCO (2019) [53-55]. All four have been developed from a global perspective. Two documents stemmed from collaborative international events: a workshop (World Economic Forum, 2019) and a conference [53]. The other two are preliminary versions [55]. During the subsequent analysis and second round of literature review, three of the initial four documents were updated. IEAIED, UNICEF, and UNESCO published their final versions, respectively, while UNESCO (2021) released a more complete policy recommendation based on its Beijing Consensus from 2019. We then incorporated these updated versions into the analysis (Table 2). The ethical competences derived from the literature were compared with the four common AI competency frameworks [30].

Table 2. Analysis of Ethical Competences with international AI frameworks.

AI Ethical Competency	World Economic Forum (2019)	IEAIED (2021)	UNESCO (2021)	UNICEF (2021)
Transparency	✓	✓	✓	✓
Justice & Fairness	✓	✓	✓	✓
Non-maleficence		✓		✓
Responsibility	✓	✓		✓
Privacy	✓	✓	✓	✓
Beneficence	✓	✓		✓
Freedom & Autonomy	✓	✓	✓	✓
Pedagogical Appropriateness	✓	✓	✓	✓
Children's Rights	✓		✓	✓
AI Literacy	✓	✓	✓	✓
Teachers' Well-being		✓	✓	

However, most of these competences, as shown in Tables 1 and 2, are based on instructional theories or literature reviews rather than actual classroom experiences. This theoretical orientation can result in teachers perceiving these competences as less relevant or applicable to their practice, reducing their motivation to adopt them [30, 33, 56]. Therefore, to meet teachers' unique needs in developing ethical competences and effectively integrating AI into the language education context, it is important to identify a set of competences grounded in practical teaching experiences.

III. METHODOLOGY

We employed a mixed-methods approach, allowing quantitative data to offer a broad overview, and qualitative data to provide a deeper extension of the findings. This design increases the ability to answer research questions carefully, developing robust evidence by integrating quantitative and qualitative findings in the context of AI usage in EFL settings [57, 58].

1. RESEARCH DESIGN

The KSA (Knowledge, Skills, and Attitudes) framework was applied to examine the ethical competences necessary for integrating AI into EFL teaching. The framework was chosen because it aligns with competency-based approaches in educational settings, which is especially relevant for exploring how teachers develop essential attributes to ethically engage with AI in the classroom. The KSA framework has been widely used in competency-based education studies, making it a suitable fit for investigating AI integration in teaching, as it focuses on the essential knowledge, skills, and ethical attitudes required for successful implementation.

The mixed-methods approach was selected to capture both the breadth of teacher competences (via quantitative survey data) and the depth of teachers' experiences, attitudes, and reflections (via qualitative interview data). This approach is vital for a comprehensive understanding of the nuanced ethical competences required for AI integration and offers a well-rounded exploration of the subject.

2. PARTICIPANTS

A total of 60 English language teachers from 5 universities in Kazakhstan participated in this study: Turan-Astana University, L.N. Gumilyov Eurasian National University, NJSC "Toraighyrov University", Arkalyk Pedagogical Institute, Esil University. They were selected based on their experience with the artificial intelligence use for language teaching along with subject matter knowledge. They have used AI tools for more than two years. A demographic summary of teachers is presented in Table 3. The selection was made to capture a diverse group of participants from different years of study (first-to final-year students) to gain insights from teachers at various stages of their educational journey.

The selection was purposefully made to capture a representative sample across different academic years and AI proficiency levels. While the sample size of 60 teachers may seem small, diversity in experience and educational background was emphasized to ensure that the findings captured a wide range of perspectives. This helps mitigate potential sample size limitations and ensures that the study's findings are reflective of a broad spectrum of AI competences.

3. DATA COLLECTION

3.1 Quantitative Data Collection

The first phase of data collection involved a structured online survey designed by the research team to assess teachers' knowledge, skills, and attitudes toward AI in EFL teaching. The survey included 24 items, adapted from existing AI competency frameworks [13, 59, 60], using a five-point Likert scale (ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The survey is divided into two sections: 1) General information about the teachers (demographics, academic year, etc.). 2) Teachers' experiences and perceptions regarding AI use in EFL.

3.2 Survey Design and Validation:

To ensure clarity and reliability, the survey was reviewed by three faculty members with expertise in AI education and EFL contexts. Feedback was obtained from five teachers to confirm the 'clarity of the questions. The instrument was revised on the basis of this feedback to improve its validity and reliability. The final reliability score for all variables exceeded 0.7, indicating high reliability [61, 62]. The survey tool was aligned with the KSA framework, focusing on teachers' ethical knowledge, skills, and attitudes toward AI in language teaching.

All ethical guidelines regarding human participation in this study have been observed. The survey was anonymous, voluntary, and no identifiable information was disclosed. Informed consent was obtained from all participants.

3.3 Qualitative Data Collection

The second phase of data collection involved semi-structured interviews with 60 English language teachers. Interviews were conducted to gain deeper insights into the competences, strengths, and areas of growth related to AI use in EFL. The interview questions were developed based on the framework of several studies [27, 30], emphasizing ethical considerations in AI usage for teaching.

3.4 Interview Structure and Validation

The interview questions were reviewed by three experienced English language faculty members and pilot-tested with three teachers, selected purposively based on their recommendations from their departmental peers. The goal was to ensure that the questions prompted reflection on ethical AI use and captured the depth of teachers' experiences of AI integration in their teaching practices.

3.5 Data Collection Instruments

The primary instruments used in this study were surveys and semi-structured interviews. The survey assessed the participants' KSA competences, while the interviews provided qualitative data to explore the teachers' perspectives on AI integration in EFL teaching in more depth. Examples of the survey questions are as follows:

- I am confident in using AI tools for language instruction (knowledge).
- I consider the ethical implications of AI when using it in the classroom (attitude).
- I have the necessary skills to use AI effectively in my language teaching (skills).
- For interviews, examples of open-ended questions included:
- Can you describe a situation where you used AI in your teaching? How did you ensure that it was
  - ethically applied?
- What challenges have you faced in integrating AI into your language curriculum?

4. DATA ANALYSIS

We used a mixed method approach. For the quantitative data analysis, we used descriptive statistical analysis using SPSS 21, which helped us identify the general trends in teachers instructional experience with AI use. By analyzing data, we determined three main factors influencing the ethical competence: knowledge, skills, and attitude competences [64, 65]. For qualitative data analysis, inductive thematic analysis [66] was applied to interview transcripts. This process included familiarization with the data, initial open and axial coding, developing themes, and refining these themes to reflect the essence of the data. Two researchers independently coded the data and engaged in a peer debriefing to ensure coding accuracy and theme validity. Through this iterative process, data saturation was achieved, allowing for the creation of a revised ethical competency framework that was then refined based on expert feedback [27, 30].

Sample size limitations were mitigated by focusing on diversity within the purposively selected group of teachers. The sample was deliberately chosen to ensure representation across a range of academic years, providing insights across different levels of experience.

For qualitative data, inductive thematic analysis was used to analyze the interview transcripts [66]. The coding process involved the following steps.

1. Familiarization with the data.
2. Open coding to identify initial categories.
3. Axial coding to refine these categories into themes.
4. Development and refinement of key themes reflecting the essence of the data.

Two researchers independently coded the interview data to ensure reliability, followed by a peer debriefing process to discuss and resolve the discrepancies in the codes. Data saturation was achieved after several rounds of coding to ensure that no new themes emerged. The final themes were used to refine the ethical competency framework and validated with expert feedback from faculty members.

IV. FINAL RESULTS

1. FINDINGS OF TEACHERS' AI EXPERIENCES FROM THE SURVEY

The demographic information presented in Table 3 provides information on the participating sixty English language teachers with diverse backgrounds in terms of gender, age, teaching experience, and educational qualifications. Out of 60 teachers, the majority were male (66.7%, or 40 teachers), whereas female teachers represented 33.3% (20 teachers). The distribution of universities shows that 15 (30%) teachers from Turan-Astana University and 15 (30%) from L.N. Gumilyov Eurasian National University participated. The remaining sample (30 teachers), representing 20% from each university, participated from "Toraighyrov University," Arkalyk Pedagogical Institute, and Esil University. The age of the teachers ranged from 25 to 35 years. Regarding teaching experience, the majority of participants (83%) had between one and two years of experience. This suggests that many teachers are relatively early in their careers, potentially contributing fresh perspectives and a willingness to adopt innovative methods, including AI, into their teaching practices. Additionally, 10 teachers (17%) had between 3 and 4 years of experience. The highest degree obtained varied, with the majority holding a bachelor's degree (66.7%, or 40 teachers), and the remaining 33.3% (20 teachers) holding a master's degree. The overall sample's approach to incorporating AI into language teaching, as advanced education levels, can correlate with increased familiarity with technology and pedagogical innovation.

Table 3. Teachers' information.

Demographic Category	Details
Gender	20 Female / 40 Male
Universities	Turan-Astana University (15), L.N. Gumilyov Eurasian National University (15), NJSC "Toraighyrov University" (10), Arkalyk Pedagogical Institute (10), Esil University (10)
Age Range	25-35 years 60 (100%)
Years of Teaching Experience	1-2 years (50), 3-4 years (10)
Highest Degree Obtained	Bachelor's (40), Master's (20)

Table 4 provides the experience and confidence level of English language teachers regarding artificial intelligence use in their teaching practices. A majority of teachers 55 (91.7%) shows that they have used AI tools in their EFL teachings, whereas 5 (8.3%) teachers response that they have not used AI in language teaching but would like to. Among those who used AI tools, the frequency of usage varies: 30 teachers use AI daily, 15 – weekly, 10 – monthly. We also asked about their confidence in using AI tools. Most teachers (45 individuals) expressed significant confidence in AI tools usage. While others partially show the confidence in AI use.

The data further revealed that only 23% of the teachers (14 individuals) had received formal training on integrating AI into their teaching, leaving a substantial 77% (46 teachers) without such training.

Table 4. Experience of AI Use in EFL Teaching.

Questions	Yes (%)	No (%)
1. Have you ever used AI tools in your EFL teaching?	45 (75%)	15 (25%)
2. Do you feel confident using AI tools in your teaching?	30 (50%)	30 (50%)
3. Have you received any training on integrating AI into your teaching practices?	20 (33%)	40 (67%)

The analysis of Table 5 shows the ethical knowledge that provides the language teachers' self-assessment findings on AI usage and ethical knowledge within the English language context. The overall mean score across all questions ranges from 2.75 to 3.20, showing a moderate level of teacher' knowledge, indicating that some areas need further development. The results revealed that EFL teachers had basic knowledge of AI tools, with moderate confidence in AI functions (mean = 3.10) and digital literacy skills (mean = 3.20). However, they appeared less proficient in AI-specific troubleshooting (mean = 2.80) and effectively incorporated AI into their teaching practices (mean = 2.90). Teachers showed moderate awareness of ethical guidelines (mean = 3.00) and general ethical standards (mean = 3.15), but their knowledge of data privacy laws was notably lower (mean = 2.75), indicating a potential area for further training. Self-reflective practices on AI's impact of AI on teaching (mean = 3.05) are moderately present, although cultural awareness in distinct classrooms is less developed (mean = 2.85). While teachers demonstrate a reasonable understanding of ethical decision making in AI (mean = 3.10), they would benefit from additional support to enhance their technical troubleshooting skills, legal knowledge, and cultural sensitivity, thereby bolstering their confidence and competence in integrating AI into EFL instruction.

Table 5. Teachers' Knowledge of AI.

Questions	Mean	SD
1. I understand the functions and limitations of AI tools in education.	3.10	0.78
2. I am knowledgeable about various digital tools and platforms.	3.20	0.85
3. I have teaching methods that effectively incorporate AI in my classroom.	2.90	0.95
4. I am familiar with AI tools and can troubleshoot common issues.	2.80	0.90
5. I am aware of the ethical guidelines related to AI use in education.	3.00	0.83
6. I understand the ethical standards expected of me as a teacher.	3.15	0.80
7. I am knowledgeable about data privacy laws related to AI use in education.	2.75	0.92
8. I reflect on the impact of AI on my teaching and learning outcomes.	3.05	0.88
9. I recognize the cultural implications of using AI in diverse classrooms.	2.85	0.87
10. I understand the moral implications of choices related to AI in my teaching.	3.10	0.82

Table 6 shows the analysis of teachers' skills, which highlights the practical abilities of language teachers in applying artificial intelligence tools to their teachings. Overall, the mean score ranges from 2.80 to 3.20, indicating a moderate level of proficiency in various skills areas of teachers. Teachers felt somewhat capable of using AI in their teaching classrooms (mean=2.95), although they may need further support to fully evaluate its effectiveness. Teachers were technically sound in dealing with AI tools to solve technical problems while using AI (mean=3.05). While teachers are still developing strategies to integrate AI into language instruction (mean = 2.90), adapting these tools for diverse learners presents a greater challenge (mean = 2.80), suggesting a need for training in customizing AI for inclusivity. Moreover, ethical assessment and evaluation was found to be another area of improvement, as teachers responded to moderate awareness of ethical considerations when selecting and implementing AI in teaching with a mean score of 2.28, whereas decision capability to make ethical sound decisions demonstrates a commitment to responsible use of AI, as the results show a mean score of 3.20. However, the teachers engaged in reflective practices regarding AI's impact on their teaching (mean = 3.10), indicating openness to continuous improvement. This shows that teachers have foundational skills for using AI tools.

Table 6. Teachers' skills toward AI use.

Questions	Mean	SD
11. I have the ability to implement and evaluate AI tools in my classroom.	2.95	0.86
12. I can effectively use ICT and AI to solve technical problems.	3.05	0.79
13. I can integrate AI to support various language teaching strategies.	2.90	0.91
14. I evaluate AI tools for ethical concerns before using them in my teaching.	2.85	0.93
15. I engage in self-reflection regarding my use of AI in the classroom.	3.10	0.84

16. I adapt AI tools to meet the needs of diverse learners.	2.80	0.88
17. I make ethically sound decisions when using AI in my teaching.	3.20	0.81

The results in Table 7 show teachers' attitudes toward the ethical and equitable use of artificial intelligence in language teaching, highlighting the ethical and responsible use of AI. Teachers have a mean score ranging from 3.15 to 3.40, showing a high level of commitment toward ethical practices and professional development, with teachers expressing a high sense of responsibility for maintaining ethical standards (mean = 3.15) and upholding moral principles (mean = 3.25). This indicates a priority for integrity when integrating AI into teaching. Teachers demonstrated a high level of openness to technological advancements and professional growth, as evidenced by the highest scores for their willingness to learn and adapt to new technologies (mean = 3.40) and commitment to continuous development in AI (mean = 3.40). This reflects a proactive approach to keep their skills updated in response to evolving educational tools. Significant appreciation for student diversity and well-being was also observed, with teachers valuing learner autonomy and diversity (mean = 3.35) and prioritizing the ethical treatment of students (mean = 3.30). Finally, teachers exhibited a strong commitment to fairness and equity in AI use, as shown by their efforts to ensure equitable access for all students (mean = 3.20). These findings highlight that teachers are not only open to integrating AI, but are also mindful of the ethical, inclusive, and student-centered practices necessary for its effective application in education.

Table 7. Teachers' skills toward AI use.

Questions	Mean	SD
18. I am committed to the ethical use of AI in my teaching practice.	3.15	0.75
19. I uphold moral principles when applying AI in my educational context.	3.25	0.72
20. I am open to learning and adapting to new technologies, including AI.	3.40	0.70
21. I value my learners' autonomy and diversity in my teaching.	3.35	0.78
22. I ensure equitable access and treatment for all students when using AI.	3.20	0.73
23. I prioritize my students' well-being and ethical treatment in my teaching.	3.30	0.76
24. I am committed to continuous professional development regarding AI in education.	3.40	0.68

Based on quantitative survey findings on competency (knowledge, skills, and attitude), language teachers need a stronger foundation in ethical competences to use AI effectively and responsibly use AI into their teaching practices. Teachers also emphasized the importance of continuous professional development to deepen their understanding of AI functionalities and potential risks as well as to foster their ability to make ethically sound decisions. Overall, EFL teachers require a balanced set of ethical, technological, and pedagogical competences to ensure that AI integration into language teaching is inclusive and responsible.

2. IN-DEPTH UNDERSTANDING OF AI EXPERIENCE FROM INTERVIEWS

Ethical competences for the use of artificial intelligence are very important for enhancing teaching effectiveness while ensuring responsible practice in the context of English as a foreign language teaching. The thematic analysis of interviews with 60 EFL teachers revealed six ethical domains in their AI-based teaching experience: (i) AI literacy, which provides knowledge about AI and its applications in English language teaching; (ii) Pedagogical and Technical knowledge, which involves knowledge about effective teaching pedagogies and technical knowledge for AI integration in teaching instruction. (iii) Assessment and Reflection, which focused on the importance of evaluating the effectiveness of AI tools and engaging in self-reflective practices on AI use in instructional design and student AI usage. (iv) Autonomy refers to teachers' ability to promote student self-learning through AI applications; (v) Professional and legal ethics, highlights the need to understand the ethical considerations and legal standards and guidelines for AI use; and (vi) Responsibility and accountability, which shows the high commitment of teachers to uphold ethical responsibilities and ensure fair practices in AI integration (Figure 1).

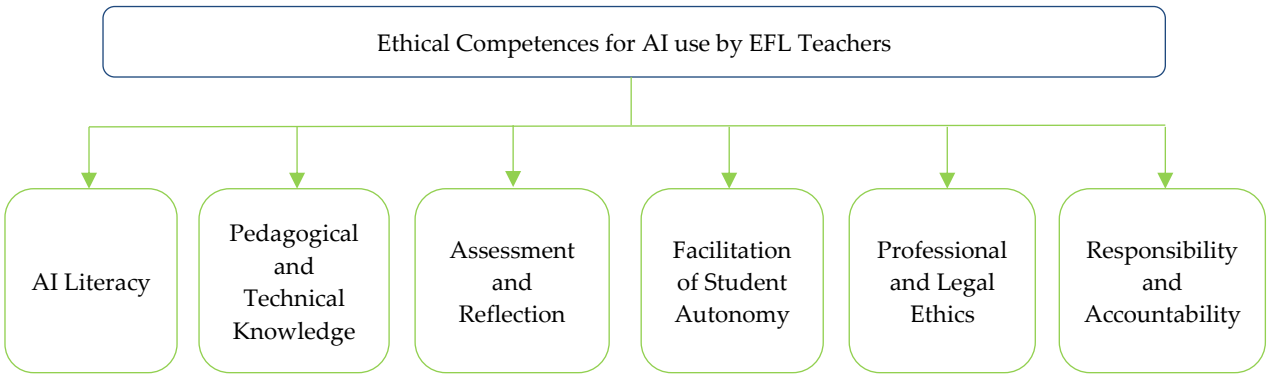

FIGURE 1. Ethical Competency framework for EFL teachers.

2.1 Theme 1: AI Literacy Competence

AI literacy is considered to be foundational competency for teachers to gain an understanding of artificial intelligence and its applications in education, as well as their advantages and disadvantages for language learning. Teachers emphasized the importance of AI literacy in familiarizing themselves with AI tools and techniques that facilitate language learning. One teacher stated that "Knowledge of AI tools is necessary. It's not just about using them; it's about knowing how they can be incorporated into lessons to make them more useful" (EFL Teacher 14). Another teacher affirmed this response, stating, "EFL teachers need to comprehend what technologies are available and how they can enhance language learning without causing difficulties in AI" (EFL Teacher 17). These teachers' responses show the need to develop deep knowledge and understanding of AI technologies to enhance language instruction. This competency helps teachers explore the digital field confidently, ensuring that they can select and utilize tools according to their pedagogical objectives while also being aware of the data generated by these technologies. This foundational knowledge is similar to a new form of literacy, enabling teachers to effectively incorporate AI into their instruction and, ultimately, enhance their language learning experience.

2.2 Theme 2: Pedagogical and Technical Competence

This competency demonstrates the ability to effectively apply AI tools in classroom settings. Teachers emphasized the necessity of not only understanding AI technologies but also being skilled in utilizing them to enhance language instruction. Teachers should know how to apply AI for personalized learning paths, ensuring that each student's unique needs are addressed" (EFL Teacher 2). This comment highlights the importance of understanding learning experiences to meet individual student requirements, which is facilitated by AI tools that can analyze learner data and adapt instructional content accordingly. Other teacher response is, "It's not enough to know that AI only; we need to know how to integrate it seamlessly into our lessons to make them more engaging and relevant" (EFL Teacher 3). This focus on integration suggests the need for teachers to develop both pedagogical strategies and technical skills to maximize the benefits of AI in language learning. Additionally, several teachers mentioned the importance of continuous professional development (CPD) in this area. One teacher stated, "Trainings, CPD courses and training on the latest AI tools are essential for us to stay updated and effective in our teaching preparations" (EFL Teacher 4). This demonstrates the collective recognition that ongoing learning is necessary to maintain pace with technological advancements and to ensure that AI is utilized to its full potential in supporting effective language instruction. Ultimately, pedagogical and technical competence are important for designing lessons that are both engaging and educationally effective, ensuring that students receive personalized and meaningful language learning experiences.

2.3 Theme 3: Assessment and Reflection Competence

This competency focuses on teaching ability to assess the effectiveness of AI tools in their teaching practices. Teachers must understand the importance of assessing how AI affects student learning outcomes (SLOs) and must reflect on their use of technology. One language teacher commented that "It's valuable for EFL teachers to significantly evaluate whether the AI tools they use actually reinforce language learning or if they simply serve as a distraction" (EFL Teacher 5). This perspective highlights the necessity of scrutinizing the impact of AI on student engagement and knowledge, ensuring that technology enhances rather than diminishes the learning experience. Another teacher shared, "Consistently reflecting on use of AI has improved to adapt my lessons to better meet the demands of students" (EFL Teacher 6). This response illustrates how ongoing self-evaluation

allows teachers to make informed corrections to their instructional strategies, ultimately improving students' outcomes. Furthermore, several educators have mentioned the importance of gathering student feedback as part of this reflective process. One teacher stated, "Attending to my students' experiences with AI tools gives me understandings into what works and what doesn't, which is critical for refining my teaching approach" (EFL Teacher 7). These assessment and reflection competences enable teachers to engage in the rotation of continuous improvement, ensuring that AI is used effectively to support language learning outcomes.

2.4 Theme 4: Facilitation of Student Autonomy Competence

This competency empowers students to take power in language learning. Teachers highlighted that, while AI tools can provide beneficial resources, it is essential for teachers to guide students in using these tools effectively, encouraging independence rather than dependency. A EFL teachers remarked, "AI can supply students with resources to practice on their own, but teachers must guide them in using these resources effectively" (EFL Teacher 8). This approach underlines the role of teachers as facilitators, ensuring that AI tools are used in lessons to encourage students to become active participants in their learning. Another teacher noted, 'By integrating AI-driven Apps that allow for self-paced learning, I see my students taking more initiative in their lessons' (EFL Teacher 9). This response demonstrates how AI can be used to create personalized learning experiences where students are authorized to explore language at their own pace. Additionally, one educator shared, 'Helping students to set their learning goals and use AI to marks their progress has made them more accountable for their education' (EFL Teacher 10). This focus on goal setting and self-assessment shows the importance of enhancing learners' sense of ownership. Ultimately, developing this competence to facilitate student autonomy through AI not only enhances language acquisition, but also develops essential skills for lifelong learning.

2.5 Theme 5: Professional and Legal Ethics Competence

Knowledge of professional and rightful ethics is necessary for EFL teachers to use AI tools in their classrooms. EFL teachers have expressed concerns about the ethical implications of AI technologies, particularly regarding data privacy and equitable access. A language teacher emphasized, "EFL teachers must be informed of the ethical issues surrounding AI, particularly how it affects students from different backgrounds" (EFL Teacher 5). This awareness is essential for ensuring that technology is used in ways that respect students' rights and promote fairness. Another teacher pointed out the importance of informed consent, stating, 'We need to safeguard that students and parents are aware of how their data is being used when we use AI tools in education' (EFL Teacher 4). This highlights the need for transparency and communication regarding the use of AI. Furthermore, one teacher mentioned, "Equity in access to AI resources is a major concern; not all students have the same opportunities to benefit from these tools" (EFL Teacher 6). These concerns are a collective commitment to upholding ethical guidelines and principles by developing a strong understanding of professional and legal ethics, and teachers can easily handle AI usage challenges in their teaching practices.

2.6 Theme 6: Responsibility and Accountability Competence

Responsibility and accountability are the most important and fundamental aspects of teachers' ethical frameworks when incorporating AI tools into their teaching practices. EFL teachers emphasized the moral obligation they had to ensure positive student outcomes. One language teacher replied, "Teachers must acknowledge that AI can support their teaching, they are ultimately responsible for student learning and outcomes" (EFL Teacher 1). This statement highlights the need for teachers to control their own instructional strategies. Teachers also discussed the consequences of misconduct and plagiarism, noting, "We must be vigilant against misuse of AI, like students using it to plagiarize assignments. It's our responsibility to teach them how to use these tools ethically" (EFL Teacher 7). This highlights the need for transparency in communication with students regarding the acceptable use of AI technologies. Moreover, one educator pointed out that fairness is key, saying, "We should ensure that all students have equal access to AI tools, so no one is left behind in their learning" (EFL Teacher 8). By promoting a culture of accountability, EFL teachers can effectively address the ethical challenges posed by AI while prioritizing the best interests of their students. Ultimately, these competences not only enhance teaching effectiveness but also help maintain a safe and equitable learning environment for all.

3. ETHICAL COMPETENCES FOR TEACHERS IN AI USE IN EFL

Initially, we developed a prototype of ethical competences for teachers, based on a comprehensive literature review. This initial framework was designed to outline the essential skills and knowledge that educators would need to responsibly integrate artificial intelligence (AI) into their English as a Foreign Language (EFL) teaching

practices. Subsequently, we refined this prototype by analyzing findings from survey responses and interviews that explored the realities of English language teaching practices through AI use. Through this iterative process, we engaged EFL teachers to identify their needs, experiences, and suggestions regarding the ethical application of AI tools in their classrooms. The feedback revealed that teachers required a solid understanding of AI literacy, emphasizing the importance of familiarity with various AI tools, their applications, and implications for language learning. Many educators have expressed a need for pedagogical and technical competences to design engaging and effective lessons that leverage AI technologies. Additionally, they highlighted the necessity of assessment and reflection to critically evaluate the impact of AI on student learning outcomes. As a result, we finalized a list of 6 main ethical competences and their 24 sub-competences for EFL teachers (see Table 8). These competences cover a broad range of skills, including facilitation of student autonomy, professional and legal ethics, and responsibility and accountability. These competences not only guide teachers in effectively utilizing AI technologies but also ensure that they do so in a manner that prioritize ethical considerations. This framework provides EFL educators with essential tools to use AI in language education, ultimately enhancing both teaching practices and student learning experiences.

Table 8. Six ethical competences and twenty-four sub competences.

Main Competences	Sub-Competences	References
1. AI Literacy Competence	Understand various AI tools for language learning. Evaluate the effectiveness of AI resources. Stay updated on AI trends and advancements. Recognize the implications of AI on student learning.	[26], [27]
2. Pedagogical and Technical Competence	Design AI-enhanced lesson plans tailored to diverse needs. Integrate AI for differentiated instruction. Utilize data analytics to inform and improve teaching strategies. Apply AI tools for personalized learning paths.	[13], [27], [30], [36], [42]
3. Assessment and Reflection Competence	Develop AI-driven assessments that align with learning objectives. Use AI-generated feedback for reflective practice. Analyze assessment data to make informed instructional decisions. Critically evaluate the impact of AI on learning outcomes.	[15], [46], [49]
4. Facilitation of Student Autonomy Competence	Encourage self-directed learning with AI tools. Promote collaborative and interactive AI learning environments. Teach students the ethical use of AI in their learning. Foster critical thinking about AI resources among students.	[22], [26], [27]
5. Professional and Legal Ethics Competence	Understand data privacy laws and ethical considerations. Establish ethical guidelines for the responsible use of AI. Ensure cultural sensitivity and inclusivity in AI applications. Advocate for equitable access to AI resources for all students.	[15], [36], [46], [49]
6. Responsibility and Accountability Competence	Model ethical AI practices in the classroom. Commit to ongoing professional development regarding AI. Practice transparency in AI tool use with students. Take ownership of students' outcomes and address issues like plagiarism and misuse.	[13], [27], [30], [42]

V. DISCUSSION AND CONCLUSION

This study explored the experiences of English language teaching on the use of AI in their teaching practices in Kazakhstan, where the integration of AI tools is relatively new and teachers have limited familiarity with their ethical use. Employing the KSA framework, we identified essential competences that are significant for effectively implementing English as a Foreign Language (EFL) curricula. Our research highlights teachers' perspectives on integrating AI into their classrooms. This study contributes, both practically and theoretically, to English language teaching and AI-based education. We propose ethical competences that support teachers seeking to enhance their AI-based teaching practices. These competences are derived from the actual experience of teachers using the KSA model; unlike previous research that primarily relied on an existing literature review, our study draws upon empirical evidence reflecting teachers' real experiences with implementing AI-based teaching practices. Furthermore, teachers perceive the relevance of these competences concerning future utility and alignment with their needs [27, 30, 59]. This supports previous studies that have identified key ethical

competences by monitoring teaching practices, emphasizing their potential practical benefits for educators [42, 60]. Consequently, our proposed ethical competences can facilitate the practice of language education in EFL contexts.

As Figure 1 shows, the final ethical competency, such as enhancing AI Literacy is an important competency for teachers not only to understand AI tools, but also to develop ethical awareness. As educators integrate AI into language learning, they must consider ethical concerns, such as data privacy, bias, and student autonomy [22-24]. Many teachers feel unprepared for these dilemmas, which can cause anxiety in using AI [25, 39]. Including ethical AI literacy in professional development can help educators make informed, responsible technology choices, cultivating a learning environment that emphasizes critical thinking and equity [26, 39]. Developing pedagogical and technical competences is important for effective AI integration into language teaching. Research highlights that focusing on instructional design rather than just technology use enhances learning experiences [41, 56]. Teachers need to address the ethical aspects of AI, ensuring that it supports all students and avoids perpetuating bias [32, 56]. By adopting AI responsibly, teachers can make data-driven decisions that increase inclusion and support diverse learners [44, 45]. Assessment practices also play a significant role in AI integration. Teachers must compare and align AI-driven assessments with learning objectives and use AI-generated feedback to enhance their reflective practice. Research shows that formative assessments improve instructional responsiveness [14, 15]. Using assessment data, teachers can create adaptive learning experiences that address student needs and support language goals. Facilitating student autonomy through AI is essential for promoting self-directed or personalized learning. AI tools allow students to take ownership of their learning, encouraging collaboration and critical thinking about resource use [45, 54]. Engaging students with AI can improve their motivation and language proficiency [32], helping them build confidence and agency for lifelong learning. Understanding the ethical use of AI is important for language educators. By developing Professional and Legal Ethics competences, teachers can ensure compliance with privacy laws and create inclusive learning environments that respect diversity [56]. Responsibility and accountability are central to ethical AI use in language education. Teachers should model responsible practices, promote transparency, and engage in ongoing professional development to stay current on AI's ethical implications [26, 30, 42]. These competences are critical for nurturing a culture of integrity, empowering students, and maintaining academic integrity in an AI-enhanced learning environment [37, 38].

The provision of professional development (PD) based on these ethical competences could alleviate teachers' current lack of PD opportunities. By focusing on PD in AI literacy-encompassing foundational knowledge of AI and ethical principles [67]. Specifically, PD initiatives that combine AI literacy with pedagogical and technical knowledge can equip teachers with the essential skills required to effectively integrate AI into language instruction. This finding corroborates previous studies that emphasize the critical role of PD in overcoming barriers to teachers' access to AI-based education [68].

VI. LIMITATIONS AND FUTURE WORK

This study aimed to investigate EFL teachers' ethical competences in the context of AI use in English language teaching. This study has several limitations must be acknowledged. First, we considered that a small sample size may limit the generalizability of our results because the experiences and perceptions of a few English language teachers may not represent the broader population of language teachers. Additionally, this study was conducted with a specific geographical focus on institutions in Kazakhstan, which may restrict the applicability of the findings to other educational contexts or regions in which AI tools are used differently. Future research should consider a large sample size and include a more diverse range of participants from various regions to enhance the representativeness of the findings. Furthermore, longitudinal studies that track the development of ethical competences over time would provide a deeper understanding of how teachers adapt their practices to evolving AI technologies. Observing the views of students regarding their teachers' ethical use of AI could also enhance their understanding of its impact on learning outcomes. Finally, examining ethical competences in subjects other than English could provide a more comprehensive overview of AI integration in education.

1. POLICY RECOMMENDATIONS

Policymakers should focus on developing a national strategy for AI use in education and provide clear ethical guidelines to safeguard student privacy and safety. The Federal government should also invest in digital infrastructure, particularly in underprivileged regions, which is needed to ensure equitable access to AI tools for all educational institutions. In addition, we focused on teacher training programs on AI through continuous professional development initiatives. The government must ensure that AI systems are implemented transparently, ethically, and effectively at educational institutions. Policies must also encourage collaboration

between educational institutions and technology developers to further enhance the positive impact of AI on learning outcomes in Kazakhstan.

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Author contribution

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data are available from the authors upon request.

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