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Enhancing Teachers' Professional Skills through the Use of Artificial Intelligence Tools in Native Language Education

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Abstract. This article analyzes the potential for utilizing artificial intelligence (AI) technologies in the modern educational process and examines their role in developing the professional skills of native language teachers. The rapid advancement of digital technologies today requires teachers to possess not only deep subject-matter knowledge but also digital competence, the ability to critically evaluate information, skills in effectively using modern pedagogical technologies, and the capacity to apply AI tools in alignment with pedagogical objectives. The article highlights the capabilities of AI in planning native language lessons, developing instructional materials, creating assignments, analyzing texts, organizing personalized learning, assessing student performance, and facilitating the teacher's independent professional development. Furthermore, it addresses critical issues such as academic integrity, information reliability, personal data protection, the teacher's independent decision-making, and the primacy of the human factor when using AI. Finally, the article proposes key directions for developing AI competence among native language teachers.

Keywords: artificial intelligence, mother tongue education, teacher, professional competence, digital competence, AI competence, generative artificial intelligence, pedagogical technology, methodological competence, digital education, critical thinking, individualized learning.

Аннотация. В статье анализируется потенциал использования технологий искусственного интеллекта (ИИ) в современном образовательном процессе и рассматривается их роль в развитии профессиональных компетенций учителей родного языка. Стремительное развитие цифровых технологий требует от педагогов не только глубоких предметных знаний, но и цифровой грамотности, умения критически оценивать информацию, навыков эффективного использования современных педагогических технологий, а также способности применять инструменты ИИ в соответствии с педагогическими целями. В статье освещаются возможности ИИ при планировании уроков родного языка, разработке учебных материалов, создании заданий, анализе текстов, организации персонализированного обучения, оценке успеваемости учащихся и содействии самостоятельному профессиональному развитию учителя. Кроме того, затрагиваются такие важные вопросы, как академическая честность, достоверность информации, защита персональных данных, самостоятельность принятия решений учителем и приоритет человеческого фактора при использовании ИИ. В заключение предлагаются ключевые направления развития компетенций учителей родного языка в области искусственного интеллекта.

Ключевые слова: искусственный интеллект, обучение на родном языке, учитель, профессиональная компетентность, цифровая компетентность, компетентность в области ИИ, генеративный искусственный интеллект, педагогическая технология, методическая

компетентность, цифровое образование, критическое мышление, индивидуализированное обучение.

Introduction. Today, the education system is undergoing a process of digital transformation. The widespread adoption of generative artificial intelligence tools, in particular, is significantly impacting the nature of the activities performed by both teachers and students. Artificial intelligence offers capabilities such as processing vast amounts of information, generating text, summarizing data, developing questions and assignments, and preparing analytical materials. UNESCO's AI competency framework for teachers, published in 2024, also emphasizes the need for educators to develop new knowledge, skills, and values in the era of artificial intelligence.[1]

Mother-tongue education is not exempt from this process, as language instruction is directly linked to activities such as text creation and analysis, vocabulary work, the explanation of grammatical concepts, the development of speech competencies, and the refinement of both written and oral communication. Some of these activities can be organized rapidly and interactively using artificial intelligence tools. However, integrating AI into education requires viewing it not as a replacement for the teacher, but as a technology that supports the teacher's professional practice. UNESCO's guidelines on generative AI also specifically highlight principles such as human interests, human agency, inclusivity, equity, cultural and linguistic diversity, and safe usage [2]. From this perspective, the modern professional profile of a mother-tongue teacher must encompass digital and AI competencies alongside subject-specific knowledge. The aim of the study is to identify the possibilities of using artificial intelligence tools in native language education and to highlight the pedagogical and methodological significance of these technologies in developing teachers' professional skills. Based on this aim, the following objectives were defined: identifying opportunities for utilizing artificial intelligence in native language education; analyzing the role of AI tools in a teacher's professional practice; outlining ways to develop methodological competence through the use of AI tools; determining the pedagogical and ethical aspects of using artificial intelligence; and formulating recommendations for developing the AI competence of native language teachers.

Research Objectives – Based on the established goal, the following tasks were carried out within the scope of the research: identifying and analyzing modern opportunities for using artificial intelligence technologies in native language education; determining the role of AI tools in the professional activities of native language teachers; and exploring possibilities for developing teachers' AI literacy, as well as their digital, methodological, creative, and critical competencies.

Analyzing the potential for using AI tools in planning native language lessons, creating didactic materials, developing assignments, and assessing student performance; identifying pedagogical, ethical, and information security issues associated with the use of artificial intelligence in the educational process; and outlining key directions for shaping and developing the AI competencies of modern native language teachers. Developing practical recommendations for the effective use of artificial intelligence tools in the continuous professional development of native language teachers.

Analysis of relevant literature – In recent years, the integration of artificial intelligence into the educational process has necessitated an update to the requirements for educators' professional competencies. Documents developed by UNESCO demonstrate the significant international attention being paid to this issue. The "AI Competency Framework for Teachers" (2024), developed by F. Miao and M. Cukurova under the auspices of UNESCO, systematizes the knowledge, skills, and values that teachers need to acquire in the era of artificial intelligence.

This document categorizes 15 teacher competencies into five key areas: a human-centered mindset, AI ethics, AI fundamentals and applications, AI pedagogy, and AI for professional development. The framework also envisions a progressive development of these competencies through three levels: Acquire, Deepen, and Create.[1] Based on this approach, a native language teacher's AI competency should not be limited merely to the ability to use technical tools. Teachers must understand the capabilities and limitations of AI tools, select them in alignment with pedagogical goals, critically evaluate AI-generated content, and adhere to ethical standards throughout the educational process. The publication "Guidance for Generative AI in Education and Research" (2023), prepared by F. Miao and W. Holmes for UNESCO, analyzes the pedagogical and ethical aspects of using generative AI in education and research. It places special emphasis on a human-centric approach, data privacy, security, equity, and responsible use.[2] In UNESCO's educational materials on AI, artificial intelligence is viewed not as a tool that completely replaces the teacher's role, but as a technology that enhances the teacher's pedagogical capabilities. The 2024 framework also presents AI as a tool to support the continuous professional development of teachers.[1] An analysis of the literature indicates that, while certain conceptual frameworks regarding the relationship between artificial intelligence and education have emerged internationally, the issue of linking them to specific disciplines—particularly native language instruction and teachers' methodological practices—requires further in-depth study. Key areas of focus include the AI-assisted creation of didactic materials for the Uzbek language, text analysis, the differentiation of assignments, teachers' professional self-development, and the pedagogical evaluation of AI-generated linguistic content. Accordingly, this study goes beyond the general educational potential of artificial intelligence to specifically examine its role in enhancing the professional competence of native language teachers.

Research Methodology. The methodological foundation of the study comprises modern competency-based, digital, and learner-centered educational approaches. A range of research methods was employed to examine the use of artificial intelligence (AI) in the educational process. Through theoretical analysis, the study reviewed scientific-pedagogical literature and methodological documents from international organizations regarding AI, digital education, and teachers' professional and AI competencies. Comparative analysis was used to contrast traditional teacher competencies with the new competencies emerging in the context of artificial intelligence; specifically, the study analyzed the evolving nature of digital literacy, critical thinking, creativity, information management, and methodological competencies. Content analysis was utilized to systematize the educational potential of AI tools—particularly in areas such as lesson planning, text generation and analysis, assignment development, the organization of personalized learning, and professional development. A model of AI competence for modern native language teachers was developed using a modeling approach. This model incorporates AI literacy and pedagogical AI competence, alongside methodological, critical, informational, ethical, digital security, creative, and reflective competencies. Based on a systems approach, the use of artificial intelligence was viewed not merely as an isolated element of a teacher's work, but as a process inextricably linked to lesson planning, the selection of educational content, student interaction, assessment, and the teacher's continuous professional development. A key principle of the research methodology is the human-centric approach; here, artificial intelligence is regarded not as a replacement for the teacher's pedagogical judgment, but as a tool that supports their professional practice. UNESCO's recommendations on generative AI also emphasize that the use of AI in education must align with principles of human empowerment, safety, privacy, equity, and responsibility [2]. Based on this

methodological approach, a model for developing AI competence among native language teachers was created, and its practical applications within pedagogical practice were analyzed.

Scientific novelty of the research. The scientific novelty of the research lies in the systematization of the key components of AI competence that facilitate the enhancement of a teacher's professional skills within the context of native language education.

Furthermore, the following directions for developing the AI competence of a modern native language teacher were substantiated: using AI tools in alignment with pedagogical objectives;

- creating methodological and didactic materials with the help of AI;
- critically evaluating AI-generated information;
- verifying the linguistic accuracy of materials related to the Uzbek language;
- adhering to academic integrity and ethical standards when using AI;

ensuring digital security and data privacy;

- utilizing AI tools for the teacher's continuous professional development.

This approach aligns substantively with the five domains and three-stage development model outlined in UNESCO's AI competency framework for teachers, published in 2024.[1] Practical significance of the research.

The research findings can be utilized in professional development and retraining courses for native language teachers, in the process of educators' independent professional growth, and during methodological seminars and practical workshops.

Based on the proposed AI competency model, practical modules for teachers can be developed—such as "Using AI in Native Language Education," "Creating Didactic Materials with AI," "AI and Modern Lesson Design," and "Responsible Use of Generative AI." Furthermore, the approaches presented in the article can facilitate the differentiation of tasks in native language lessons, enhance work with texts, foster students' creative and critical thinking, and expand opportunities for the efficient use of teachers' time resources.

Limitations of the study: This study is primarily based on theoretical and methodological analysis and does not present large-scale empirical results from specific schools or teachers. Therefore, to evaluate the effectiveness of AI tools in native language education through precise quantitative indicators, it is advisable to conduct empirical research in the next stage—incorporating experimental trials, teacher surveys, and classroom observations. Artificial Intelligence and the teacher's modern professional competence: The integration of AI technologies into the educational process is bringing new dimensions to the teacher's traditional role. UNESCO's "AI Competency Framework for Teachers" outlines 15 competencies across five key areas: a human-centered mindset, AI ethics, AI foundations and applications, AI pedagogy, and AI for professional development [1]. This approach is also highly relevant to the work of native language teachers, as they must verify the accuracy of AI-generated materials regarding content, methodology,linguistics, and factual correctness before using them.For instance, a generative AI tool could be given the prompt: "Create 10 interactive tasks on the topic of 'sentence components' for 8th-grade students." The AI will quickly generate a variety of exercises. However, before incorporating them directly into the lesson, the teacher must verify several factors: alignment with the curriculum; the accuracy of linguistic information; suitability for the students' age group; the level of task complexity; and the extent to which the tasks facilitate achieving the learning objectives. Thus, the effective use of artificial intelligence does not diminish the teacher's methodological work; on the contrary, it demands a high level of analytical, critical, and methodological competence. Opportunities for using artificial intelligence in native language education: Several key areas for utilizing AI in native language lessons can be identified. 1. Lesson planning. Teachers can use AI

tools to develop lesson objectives, expected outcomes, teaching methods, and tasks for specific topics. For example, regarding the topic "Word Formation in the Uzbek Language," AI can assist in formulating: lesson objectives; inquiry-based questions; 2. Creating didactic materials: A native language teacher can use AI to generate assignments tailored to students of varying proficiency levels. For instance, exercises ranging from basic to intermediate and advanced complexity can be developed for a single topic. This approach expands opportunities for differentiated instruction. 3. Text creation and analysis: Generative AI tools enable the provision of texts across various genres to students. Students can analyze a text's topic, main idea, style, lexical content, grammatical structure, and the syntactic characteristics of its sentences. It is also possible to generate versions of the same text in different styles and assign tasks requiring students to compare them. 4. Vocabulary development: AI tools can be used to design tasks such as creating exercises involving synonyms, antonyms, homonyms, and paronyms; constructing sentences with new vocabulary; and determining word meanings based on context. This process not only expands students' vocabulary but also enhances the teacher's skill in creating assignments. 5. Organizing individualized instruction: Students in a classroom do not all possess the same level of knowledge. Consequently, a teacher may need to develop simplified tasks for some students and more complex ones for others. AI facilitates this process by helping to generate multiple versions of assignments, enabling the teacher to implement a differentiated approach more effectively. 6. Teacher self-development. Artificial intelligence can also be utilized for a teacher's independent professional development. Teachers have the opportunity to ask questions regarding specific pedagogical issues, compare various methodological approaches, have lesson plans analyzed, or generate alternative assignments. Within the UNESCO AI Competency Framework, the use of AI tools to support teachers' continuous professional development is highlighted as a distinct area of focus [1]. How does artificial intelligence enhance a teacher's professional expertise? A teacher's professional expertise comprises several components. The targeted use of AI tools can foster the development of the following competencies: First, digital competence is enhanced. Teachers acquire skills in researching, selecting, and utilizing modern technologies, as well as evaluating the outcomes. Second, methodological competence is developed. Teachers learn to compare various methods, exercises, and assignments for a given topic and select the most suitable option. Thirdly, creative competence develops. Material suggested by AI can inspire the teacher to generate new ideas. Instead of merely replicating ready-made material, the teacher adapts it to suit the specific goals of their lesson. Fourthly, critical thinking skills develop. AI does not always provide correct answers. Consequently, the teacher learns to verify AI-generated information, cross-reference it with other sources, and identify errors. Fifthly, reflective competence develops. By analyzing the lesson process, the teacher can determine which tasks were effective and which methods require improvement. AI competence of a native language teacher.

The AI competence of a modern native language teacher can be viewed based on the following model: Competence.	Contents
AI literacy	Understanding the capabilities and limitations of artificial intelligence
Pedagogical AI competence	Selecting AI tools aligned with lesson objectives

Methodological competence	Developing assignments and materials using AI
Critical competence	Verifying the accuracy of AI responses
Information competence	Identifying and comparing reliable sources
Ethical competence	Responsible and ethical use of AI
Digital security	Protection of personal data
Creative competence	Generating new pedagogical ideas using AI
Reflexive competence	Analyzing one's professional activities using AI

These competencies imply not merely the use of technology by the teacher, but rather its pedagogically conscious management. The use of artificial intelligence in education also presents a number of challenges. First and foremost, information generated by AI may not always be reliable; in some instances, the system might provide non-existent sources or incorrect data. This issue is particularly critical in native language education, where accuracy regarding linguistic rules, terminology, spelling, and grammatical explanations is essential. Therefore, teachers should not accept AI-generated responses as definitive scientific or methodological sources. A second issue concerns academic integrity; if a student prepares written assignments—which are intended to be completed independently—entirely with the help of AI, it becomes difficult to assess their actual knowledge and skills. A third issue is personal data security; teachers and students must exercise caution when entering personal, confidential, or sensitive information into AI platforms. UNESCO also identifies data privacy and security as key issues associated with generative AI.[2] The fourth issue is the risk of the human element being diminished. The goal of the educational process is not merely to rapidly acquire information but to foster independent thinking, communication, creativity, and personal development. Therefore, AI should not completely replace the thinking processes of teachers and students. Regarding the preparation of teachers to use AI tools, professional development programs aimed at enhancing the AI competencies of native language teachers can be organized in the following stages: Stage 1 — Understanding. Teachers are introduced to the fundamental concepts, capabilities, and limitations of artificial intelligence. Stage 2 — Practical Application. Teachers learn to create lesson plans, assignments, tests, texts, and methodological materials using AI. Stage 3 — Pedagogical Integration. AI tools are incorporated into actual classroom instruction, and their pedagogical effectiveness is analyzed. Stage 4 — Critical Evaluation. Teachers evaluate the accuracy, alignment with methodological objectives, and ethical aspects of the materials generated by AI.

Stage 5 — creative creation. Teachers use AI to develop new methodological materials, systems of assignments, and educational resources. This approach aligns with UNESCO's concept of the phased development of AI competencies for teachers. The framework outlines competency development through the stages of "Acquire," "Deepen," and "Create."[1] Practical

recommendations. To enhance the professional skills of native language teachers, the following practical recommendations can be proposed: Organize short-term practical courses aimed at enhancing educators' foundational AI literacy. Develop methodological guidelines on using AI tools tailored to the native language curriculum. Conduct practical workshops for teachers on creating lesson plans and didactic materials using AI. Establish criteria for evaluating materials generated with the help of AI.

Develop methodological recommendations for teachers regarding academic integrity and the responsible use of AI. Promote the methodological materials created by teachers using AI on platforms for sharing best practices. Pay special attention to the linguistic and cultural characteristics of the Uzbek language when using AI tools. Foster the skill of verifying AI-generated responses among teachers. Structuring the use of AI tools as a supportive mechanism that does not replace the teacher's independent thinking and methodological judgment.

Conclusion. In summary, the integration of artificial intelligence into the educational process brings not only new opportunities but also new responsibilities to the professional work of native language teachers. The prudent use of AI technologies expands the teacher's capabilities regarding lesson planning, the preparation of instructional materials, the creation of assignments, the organization of individualized learning, text analysis, and professional development.

However, the effectiveness of artificial intelligence depends not on the technology itself, but on the pedagogical purpose for which it is used. Teachers must critically evaluate AI-generated information, verify facts, foster students' independent thinking, and uphold principles of academic integrity. Consequently, the professional expertise of a modern native language teacher extends beyond mere linguistic and methodological knowledge; it is increasingly enriched by competencies such as digital literacy, AI literacy, critical thinking, creativity, information security, and ethical responsibility.

Artificial intelligence can make a positive contribution to the educational process only when viewed not as a replacement for the teacher, but as a tool that expands their pedagogical capabilities. UNESCO also emphasizes the need for AI to strengthen human agency in education, support teachers' professional development, and ensure the safe, ethical, and responsible use of technology [1; 2].

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