ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 12| Issue: 3| March2026|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2026: 8.753 || ISI Value: 1.188

MODERN INTERPRETATION OF PEDAGOGICAL CULTURE IN THE CONTEXT OF ARTIFICIAL INTELLIGENCE INTEGRATION

Radjapova Feruza Abdullayevna
Urgench State Pedagogical Institute, Independent Researcher

Article DOI: https://doi.org/10.36713/epra26678
DOI No: 10.36713/epra26678

ABSTRACT

This article analyzes the modern interpretation of pedagogical culture in the context of artificial intelligence integration. It examines the transformation of the teacher's professional role, pedagogical decision-making within adaptive AI systems, the culture of critically evaluating algorithmic recommendations, and the developmental nature of digital assessment. The principles of personal data protection, prevention of algorithmic discrimination, and inclusivity, as outlined in the UNESCO documents – ICT Competency Framework for Teachers and AI Competency Framework for Teachers – are analyzed as key criteria of pedagogical culture. The findings demonstrate that the development of pedagogical culture in adaptive AI environments should extend beyond digital literacy to include critical thinking, reflection, and ethical responsibility.

KEYWORDS: *Pedagogical Culture, Artificial Intelligence, Adaptive Learning, Algorithmic Recommendations, Critical Thinking, Digital Assessment, Inclusive Education, Ethical Responsibility.*

The education system of the 21st century is undergoing a stage of digital transformation. As artificial intelligence technologies rapidly develop, opportunities are expanding for the use of adaptive systems, automated assessment, real-time analytics, and the formation of individual learning trajectories in the educational process. In such conditions, the content of pedagogical activity, the professional role of the teacher, and the structural components of pedagogical culture require reconsideration. Particularly in adaptive artificial intelligence environments, pedagogical decision-making must be based on data while remaining harmonized with humanistic values, ethical responsibility, and educational objectives [1].

This approach is also reflected in international regulatory documents. In particular, the UNESCO document *ICT Competency Framework for Teachers (Version 3)* emphasizes that teachers' competencies in using digital technologies should not be limited to technical literacy or the ability to operate software tools [2]. According to this framework, when digital technologies are integrated into education, they must serve pedagogical purposes—enhancing students' cognitive activity, developing independent thinking, and enriching learning outcomes in meaningful ways.

The Framework also pays particular attention to assessment and feedback. It interprets the responsibility of presenting digitally generated results in a clear, transparent, and development-oriented manner as a professional duty of the teacher. In the digital context, this becomes an important indicator of pedagogical culture—namely, the ability to link assessment results with pedagogical decisions, reorganize the learning process accordingly, and strengthen individualized approaches [3].

Thus, the meaning of assessment fundamentally changes in the context of digital technologies. It evolves from a formal process of recording results into a pedagogical tool that stimulates student development and reinforces the learner's role as an active subject in the educational process. This confirms that, in its digital interpretation, pedagogical culture requires assessment to be carried out in harmony with humanistic principles, educational goals, and professional responsibility. The document further emphasizes preserving the human factor in processes of assessment, communication, and student support as a core condition of pedagogical culture.

Another significant aspect of pedagogical culture in adaptive AI environments is the culture of critically evaluating algorithmic recommendations. As noted in scholarly literature, although algorithms are capable of analyzing students' academic performance, they cannot fully capture social context, emotional state, and motivational characteristics. Therefore, maintaining the primacy of the human factor in pedagogical decision-making becomes methodologically essential.

From a scientific-pedagogical perspective, algorithmic recommendations are formed based on statistical and probabilistic models. While these models generalize previous performance data, they cannot fully reflect a learner's emotional condition, social position in the classroom, self-confidence, or intrinsic motivation in real educational situations. For this reason, recommendations generated by algorithms should not be regarded as final pedagogical decisions but rather as sources of information requiring teacher analysis and reflection [4].

Methodologically, this approach requires teachers to compare algorithmic recommendations with didactic objectives, adapt them to specific pedagogical contexts, and revise them when

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 12| Issue: 3| March2026|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2026: 8.753 || ISI Value: 1.188

necessary. Teachers must make decisions by considering not only academic indicators but also students' psychological states, social relationships within the classroom, and attitudes toward learning. In this process, pedagogical culture is manifested not in the automatic acceptance of algorithmic recommendations but in their conscious critical evaluation and alignment with educational goals.

Moreover, the culture of critically assessing algorithmic recommendations strengthens pedagogical responsibility. If teachers accept AI-generated decisions without reflection, the educational process risks technological determinism. Conversely, a critical approach enables teachers to manage technology as a tool that enriches pedagogy, minimizes potential negative impacts, and preserves the humanistic essence of education.

Thus, in adaptive AI environments, the culture of critically evaluating algorithmic recommendations becomes an important methodological component of pedagogical culture. It shapes teachers not as passive executors subordinate to technological directives, but as professional subjects who guide and regulate them through pedagogical reasoning, educational objectives, and individualized approaches. This demonstrates that developing pedagogical culture in future teachers cannot be limited to digital literacy alone; it must also integrate critical thinking, reflection, and methodological responsibility.

The AI Competency Framework for Teachers developed by UNESCO highlights that the use of artificial intelligence in education should not be evaluated solely in terms of technological efficiency or automation capabilities, but also in light of its social, ethical, and pedagogical implications. The framework interprets AI as a supportive educational tool that must be applied in alignment with human interests and pedagogical values.

In particular, the protection of personal data is identified as a central principle in the use of AI in education. Since AI systems collect extensive data on students' academic performance, activity, and learning processes, adherence to principles of privacy, security, and informed consent becomes an integral component of pedagogical responsibility. In its digital interpretation, pedagogical culture therefore requires not only methodological competence but also ethical awareness and legal literacy [5].

The framework also places special emphasis on preventing algorithmic discrimination. Because AI systems operate on historical or statistical data, there is a risk of conscious or unconscious bias toward certain groups of students. Therefore, transparency of algorithms, explainability of decision-making mechanisms, and the critical evaluation of results become essential indicators of pedagogical culture. Teachers should treat algorithmic decisions not as absolute truths but as probabilistic recommendations requiring pedagogical analysis.

Furthermore, the principle of ensuring equal opportunities for all students is interpreted as a key criterion of inclusivity in AI-based educational systems. While AI technologies may adapt to individual needs, digital divides, unequal access to technology, or failure to consider specific circumstances may exacerbate educational inequality. Consequently, pedagogical culture must ensure that AI tools are implemented in ways that consider the interests of all learners, avoid exclusion, and uphold inclusive education principles.

In conclusion, in adaptive artificial intelligence environments, pedagogical culture extends beyond technological skills to encompass the ability to critically evaluate algorithmic decisions, organize digital assessment as a developmental and motivational process, and adhere to ethical and inclusive principles in the use of AI. Within the competency framework proposed by UNESCO, the protection of personal data, prevention of algorithmic discrimination, and creation of equal opportunities for all learners emerge as key criteria of pedagogical culture in its modern digital interpretation. Therefore, the development of pedagogical culture in future teachers must focus on forming responsible and critically thinking educators capable of subordinating adaptive AI technologies to pedagogical goals.

REFERENCES

1. UNESCO. (2018). *ICT Competency Framework for Teachers (Version 3)*. Paris: UNESCO Publishing.
2. UNESCO. (2024). *AI Competency Framework for Teachers*. Paris: UNESCO Publishing.
3. Luckin, Rose, Holmes, Wayne, Griffiths, Mark, & Forcier, Laurie B.. (2016). *Intelligence Unleashed: An Argument for AI in Education*. London: Pearson Education.
4. Holmes, Wayne, Bialik, Maya, & Fadel, Charles. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Boston: Center for Curriculum Redesign.
5. Selwyn, Neil. (2019). *Should Robots Replace Teachers? AI and the Future of Education*. Cambridge: Polity Press.