ARTIFICIAL INTELLIGENCE IN TEACHING AND ASSESSMENT: A RESPONSIBLE AND INCLUSIVE APPROACH

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Abstract

This thesis examines the ethical principles, criteria for responsible use, and inclusivity of artificial intelligence in education. It identifies key priority areas and provides methodological recommendations for the digital transformation of teaching and assessment processes.

Keywords: *artificial intelligence, responsible education, inclusivity, ethical criteria, digital transformation, assessment system*

In the context of digital transformation, artificial intelligence is increasingly serving as an assistant to teachers and as a personalized tutor for students. However, hidden biases and errors in algorithms, as well as the digital divide, may create or deepen inequalities in education.

Principles of Responsible Use

The following criteria should be prioritized when using artificial intelligence in education:

1. **Transparency:** Students should be informed about the processes in which artificial intelligence is being used.
2. **Academic Integrity:** Artificial intelligence should be regarded not as a substitute for knowledge, but as a tool that enriches and supports learning.
3. **Data Privacy:** Students' personal data and intellectual property must be protected.

The use of artificial intelligence in teaching and assessment is not merely a technical process; it also involves substantial ethical responsibility. The following assessment and pedagogical

criteria are discussed in greater academic and practical detail [Luckin, R., & Holmes, W., 2016: 19].

1. Ethical and Legal Framework

Human agency and fundamental rights must remain at the center of any use of artificial intelligence.

- **Algorithmic Transparency and Explainability:** Students and teachers should be able to understand how an AI system has reached a particular conclusion. For example, if an AI system assigns a low score to an essay, it should clearly indicate the criteria on which that judgment was based.
- **Protection of Data Subjects:** Students' written assignments, voice recordings, personal performance data, or other educational records should not be used to train AI models without their informed consent.
- **Academic Integrity:** Educational institutions should clearly define the permissible boundaries of AI use so that its role can be distinguished from plagiarism and appropriately framed as academic support or collaboration. For example, AI may be permitted for information retrieval while being restricted for generating final written submissions.

2. Pedagogical and Methodological Criteria

Artificial intelligence should enrich the educational process rather than oversimplify it.

- **Promoting Critical Thinking:** Students should be required to critically evaluate, verify, and fact-check information generated by AI rather than accepting it without scrutiny.
- **Human-in-the-Loop Assessment:** Artificial intelligence should never independently determine a student's final grade. AI may provide analytical feedback or recommendations, but the final assessment decision should remain the responsibility of the teacher.
- **Skills-Oriented Assessment:** Assessment should focus not merely on the final answer, but also on the problem-solving process, reasoning, and logical sequence used by the student.

3. Inclusivity and Equity Criteria

Artificial intelligence should provide equal educational opportunities for all learners and should not disadvantage particular groups.

- **Bias Mitigation:** AI models are often trained predominantly on data in certain languages, particularly English. Their use in Uzbek-language tasks or culturally specific local contexts should therefore be carefully monitored to prevent inaccurate, biased, or stereotypical outputs.
- **Digital Accessibility:** AI tools should not be limited exclusively to paid services or platforms requiring high-speed internet access. Ensuring access for students from low-income families and remote regions is a fundamental criterion of inclusive education.
- **Special Educational Needs and Universal Design for Learning:** AI systems should be capable of automatically adapting educational materials for students with visual, hearing, or physical disabilities. For example, such systems may support functions such as converting text into sign-language-compatible formats or providing other accessible alternatives.

Table 1. Systematization of the Criteria

Criterion	Purpose	Practical Application
Validity	Ensuring assessment accuracy	Verifying that AI-generated assessments are aligned with the objectives of the curriculum.
Security	Protection of personal privacy	Preventing students' personal data from being transferred or exposed to open databases.
User Control	Autonomy	Allowing teachers to suspend or stop AI intervention whenever necessary.

Adaptability	Individualized approach	Adjusting the difficulty level of tasks according to the student's level.

Ensuring Inclusivity in Education

Artificial intelligence should create a **barrier-free learning environment** for students with disabilities or those experiencing difficulties in academic achievement [Selwyn, N., 2019: 109].

- **Adaptive Learning Plans:** Adaptive learning systems should be designed to adjust to each student's individual pace, needs, and learning characteristics.
- **Support for Students with Disabilities:** AI-based tools should provide functions such as speech-to-text conversion and audio descriptions of visual information for students with visual impairments.
- **Cultural Diversity:** Algorithms should be capable of recognizing and accommodating different languages and cultural contexts without discrimination or bias.

Reforming the Assessment System

Traditional assessment methods may be particularly vulnerable to plagiarism or unauthorized use of AI-generated content [Zawacki-Richter, O., et al., 2019: 10]. Therefore, the following approaches are recommended:

- **Process-Based Assessment:** Assessment should focus not only on the final outcome but also on the student's reasoning, problem-solving process, and development of ideas.
- **Critical Analysis:** Students should be required to critically evaluate and analyze responses generated by artificial intelligence rather than simply accepting or reproducing them.

Conclusion

In conclusion, integrating artificial intelligence into education is not merely a technological upgrade; it represents a transformation of pedagogical culture. A responsible and inclusive approach can improve the quality of education while also supporting the development and realization of each learner's individual potential.

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