



ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN THE TEACHING OF SOCIAL AND HUMANITARIAN SCIENCES

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Abstract

This article examines the theoretical and practical aspects of using artificial intelligence technologies in teaching social and humanitarian sciences. It highlights the significant role of AI tools in personalizing the learning process, increasing educational efficiency, and fostering students' creativity and critical thinking skills. The study also explores the advantages of AI-based learning platforms, automated analytical systems, and interactive instructional models, offering innovative solutions to contemporary pedagogical challenges.

Keywords: Artificial intelligence, digital education, innovative pedagogy, social and humanitarian sciences, educational technologies, interactive learning, distance education, digitalization.

Introduction

In the current era marked by intensified globalization and digital transformation, the education system faces such priority tasks as developing human capital, deepening students' competencies, and increasing the effectiveness of the learning process. The rapid advancement of artificial intelligence (AI) technologies has opened new methodological opportunities not only in technical and natural sciences but also in the teaching of social and humanitarian disciplines. The integration of AI tools into education enables the individualization of learning, the development of students' critical and creative thinking skills, the monitoring of educational quality, and the automation of pedagogical processes.



Modern American Journal of Social Sciences and Humanities

ISSN (E): 3067-8153

Volume 01, Issue 08, November, 2025

Website: usajournals.org

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At the present stage of educational development, the application of artificial intelligence in the social and humanitarian sciences requires a fundamental reconsideration of methodological approaches. In disciplines such as history, philosophy, law, political science, sociology, psychology, and cultural studies, the use of AI allows students to virtually model complex social processes, automatically analyze data, simulate statistical and sociological phenomena, and adaptively master educational materials. Moreover, AI-based learning platforms ensure the adaptability of educational content to student needs, facilitate rapid feedback exchange, and enhance interactivity within the learning environment.

Artificial intelligence technologies also play an important role in supporting teachers' professional activities. Automated assessment systems, plagiarism detection software, linguistic analysis tools, conversational robots, and intelligent assistants contribute to improving the quality and efficiency of the pedagogical process. The use of AI in education not only modernizes the learning process but also fosters learners' independence, decision-making abilities, analytical skills, and their capacity to process information effectively.

However, the widespread adoption of artificial intelligence is associated with numerous challenges, including issues of information security, protection of personal data, algorithmic fairness, technological dependency, and pedagogical ethics. Therefore, it is crucial to conduct scientific research on this topic, develop AI models and methods tailored to the social and humanitarian sciences, and identify both the potential and limitations of these technologies.

In recent years, the rapid integration of artificial intelligence technologies into the educational process has shaped innovative methodological approaches to teaching social and humanitarian disciplines. An analysis of academic sources on the topic shows that AI is regarded not only as a technical tool for education, but also as a transformative factor capable of reshaping cognitive and pedagogical processes.

First, E. Brynjolfsson and A. McAfee interpret AI technologies as a “force multiplier” for human capabilities [1], emphasizing that artificial intelligence expands the capacities of both teachers and students. According to their view, adaptive learning platforms help shape individualized educational trajectories,



thereby strengthening learner-centered approaches in the social and humanitarian sciences.

J. Luckin points out that AI's "intelligent partnership" model is taking education to a new level. Her research highlights AI's ability to diagnose students' knowledge levels, analyze errors, and adapt learning materials accordingly [2]. This approach is particularly valuable for disciplines such as history, philosophy, and sociology, where logical reasoning and analytical thinking are essential.

The psychopedagogical aspects of AI implementation in the social and humanitarian sciences are extensively examined by H. Holmes. He describes models through which artificial intelligence can enhance student motivation and engagement, manage cognitive load in the learning process, and develop reflective skills [3]. According to Holmes, AI tools do not replace teachers but rather serve as effective support mechanisms for their diagnostic and analytical work.

Since the social and humanitarian sciences focus on the study of humans and society, the principles of human dignity, personal data protection, and pedagogical responsibility play a crucial role in the use of AI tools. M. Petersen, who studied the practical effectiveness of digital education, shows that AI-based learning platforms (Coursera, EdX, Khan Academy, Google Classroom with AI integration) enhance interactivity in the educational process and create dynamic interaction between students, instructors, and educational content [4].

Among local researchers, A. Nishonov highlights the methodological possibilities of using AI technologies in Uzbekistan's education system. He substantiates that AI has several key advantages in improving the effectiveness of the learning process, such as:

- adaptation of learning materials,
- automation of assessment,
- development of critical thinking in students,
- rapid data analysis [5].

Furthermore, the Development Strategy – 2030 identifies the advancement of digital education, the creation of AI-based educational resources, and the



widespread introduction of innovative methods in the social and humanitarian sciences as priority objectives [6].

Overall, artificial intelligence is creating a new stage of learner-centered education in the teaching of social and humanitarian disciplines. Adaptive learning, augmentation technologies, automated analysis, and interactive models not only enhance learning efficiency but also strengthen the overall pedagogical process. However, its ethical, methodological, and psychological aspects require deep and continuous examination.

The use of AI technologies in teaching the social and humanitarian sciences has become an objective necessity of the modern education system. Analysis of academic literature, practical experience, and theoretical sources shows that AI technologies have the potential to fundamentally renew the methodological, pedagogical, and psychological foundations of the learning process. AI tools effectively perform such tasks as individualizing learning, identifying students' intellectual potential, automatically analyzing their academic performance, and optimizing teachers' work.

The advantages of artificial intelligence—such as adaptive learning, interactive simulations, virtual learning environments, automated assessment systems, and cognitive-support platforms—are shaping a qualitatively new stage in the teaching of the social and humanitarian sciences. These technologies play a significant role in developing competencies such as critical thinking, analytical skills, creative reasoning, and media literacy.

At the same time, the introduction of AI into pedagogical practice presents several challenges. These include information security issues, the protection of personal data, algorithmic fairness, technological dependency, plagiarism risks, and the necessity of continuous professional development for teachers. Therefore, the use of AI requires ethical approaches, clear governance mechanisms, psychological preparedness, and improved regulatory frameworks.

The analysis confirms that the integration of artificial intelligence technologies into the social and humanitarian education system leads to several strategic outcomes:

1. It improves the quality of the learning process — educational materials are mastered more deeply, systematically, and interactively.



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2. It increases students' motivation — individual learning pathways are created.
 3. It reduces the burden on teachers — diagnostic, assessment, and monitoring tasks are automated.
 4. It forms an innovative pedagogical culture — promoting digital literacy and high-quality educational standards.
 5. It develops critical and creative thinking — strengthening analytical skills, logical reasoning, and data processing abilities.

In conclusion, AI technologies provide broad opportunities for introducing innovative approaches, new pedagogical models, enhanced efficiency, and the development of digital competencies in the teaching of social and humanitarian disciplines. In the future, further improvement of AI-supported educational processes, continuous teacher training, and the development of a digital educational ecosystem should remain one of the priority directions of the New Uzbekistan's educational strategy.

Based on the above analysis and results, the following recommendations can be given:

1. Individualize learning using AI: apply AI diagnostic systems (Khan Academy AI, Google Classroom AI, ChatGPT assessment modules) to determine students' knowledge levels.
2. Use ChatGPT, Claude, or Gemini to create virtual dialogues, simulations, and scenarios in subjects such as history, philosophy, and psychology; for example, "virtual conversations" with historical figures or AI-driven modeling of social processes.
3. Conduct analytical discussions on AI-generated texts: encourage students to identify logical weaknesses, errors, and misinformation (fact-checking).
4. Optimize electronic libraries using AI: enhance article recommendation, automatic sorting, and fast search functions.
5. Introduce "AI-consultant" services for students.
6. Use AI correctly in the learning process: rely on AI for structuring, planning, and generating ideas, but revise the final text independently.
7. Implement AI-based assessment systems: automated analysis of test results and diagnostics.
8. Model historical events using AI in social science courses.



9. Develop AI-supported role-playing simulations for conflict studies and social processes in sociology, psychology, and political science.
10. Enhance multimedia use: infographics, maps, diagrams, and animations created through AI significantly increase learning effectiveness.

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*Modern American Journal of Social Sciences
and Humanities*

ISSN (E): 3067-8153

Volume 01, Issue 08, November, 2025

Website: usajournals.org

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