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The use of artificial intelligence when working with first-semester students

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Abstract

The use of artificial intelligence when working with first-semester students

This article examines the integration of artificial intelligence (AI) into the higher education system of the Republic of Kazakhstan. The author analyzes the specifics of Kazakhstani higher education, including statutory regulations, standard curricula, and challenges associated with the lag of educational programs behind labor market demands. Drawing on practical experience in teaching "Political Science" at Caspian University, the paper presents a methodology for developing foundational AI application skills among first-year students. A step-by-step algorithm for executing practical assignments — specifically compiling a systematized bibliography and automating grading using neural networks (Gemini, ChatGPT) — is outlined. Special emphasis is placed on fostering analytical thinking, information verification skills, and the critical role of human agency when collaborating with AI tools.

Keywords: artificial intelligence in education, higher education in Kazakhstan, teaching methodology, Gemini, ChatGPT, general education disciplines, student independent work

Currently, artificial intelligence (AI) is becoming increasingly integrated into all areas of human activity. The issue of its integration into the educational process is particularly pressing. In this article, the author outlines an approach to the development of skills for working with AI among students in their first semester of study. Since the system of higher education in the Republic of Kazakhstan has distinctive characteristics, a substantial part of this paper describes these characteristics.

It is widely acknowledged that the education system lags behind the demands of employers. This is understandable: an employer, typically identifies an immediate problem and demands the preparation of personnel capable of solving this specific problem. The education system responds, but to implement new courses, it is necessary to develop new curricula, as well as methodological and practical content for the new course, which undoubtedly takes time.

Furthermore, courses rarely reach the desired standard in their first iteration. As a rule, bringing a course to the required standard requires two to three academic years. During this time, the problem for which the employer required specific competencies from graduates has either transformed or

been superseded by new problems. The implementation of AI has significantly accelerated this process. Now, personnel with new competencies are needed "urgently."

Research objective

To substantiate and present the practical experience of methodological integration of neural networks (Gemini, ChatGPT) into the educational process for first-semester students, using the discipline "Political Science" at Caspian University as an example, while directing AI-assisted work toward developing basic skills in data systematization, self-verification, and critical analysis, while preserving the leading role of humans.

There is a significant gap between the necessity of integrating artificial intelligence into higher education in Kazakhstan and the actual practice of its application. In particular, instructors often avoid introducing neural networks into pedagogical practice due to the lack of ready-made instructions. Meanwhile, students perceive AI primarily as an entertainment tool. Rigid regulation of the educational process by the Ministry also contributes to this challenge.

It is also important to highlight the lack of analytical thinking skills among first-year students. According to recent PISA studies, only 36% of learners achieved at least Level 2 in reading literacy (OECD average: 69%) (OECD, 2025). Less than 40% of high school graduates are capable of identifying the main idea of a medium-length text, finding information based on explicitly stated, though sometimes complex criteria, or reflecting on the purpose and form of a text when explicitly directed to do so! Yet this forms the foundation not only of higher education but also of subsequent professional activity.

There are numerous proposals on how to solve this problem. On August 15, 2025, the President of the Republic of Kazakhstan, Kassym-Jomart Tokayev, instructed authorities to accelerate the introduction of AI into the educational process (Tengrinews, 2025) and signed a decree on this subject.

Many conferences, discussions, rallies, and symposia were held. Significant progress was noted in the process of implementing AI into higher education (Postupi.kz, 2025). A number of articles were published on this topic describing empirical studies (Aderikhin, 2025; Erzatova et al., 2025; Pshikhacheva,

2023; Toktarova & Popova, 2023; Toktarova et al., 2024). Doctoral dissertations were defended (Sakhipov, 2025), and monographs were published (Buzaubakova et al., 2025).

However, apparently, the situation is more complex, given that exactly one year later (on August 26, 2026), the President delivered a new message titled "'A Major Oversight' — President on Non-Compliance with the Decree on the Implementation of AI in Education" (Tengrinews, 2026).

The attitude of university instructors toward using neural networks in the educational process has attracted research attention (Prokhorova et al., 2024). Researchers note that instructors not only understand the importance of using AI in education and have an idea of where and how to apply neural networks, but rarely use neural networks in their own practical teaching activities.

In the author's opinion, the solution to this problem will be feasible only if every instructor independently determines their own stance on using neural networks in teaching without waiting for instructions from higher authorities.

Research also shows that students do not fully understand how neural networks can be used in the learning process (Aleshkovski et al., 2024).

Regarding the university-employer connection, the author believes the most acceptable approach is to strengthen the theoretical foundation within higher education institutions, teach disciplines aimed at enhancing creative thinking (primarily humanities disciplines), and teach the fundamentals of the student's future specialty. Additionally, the student must learn how to work with neural networks. Equipped with this foundation, the student goes to an enterprise where, under the guidance of mentors, they apply theoretical knowledge in practical activities. Subsequently, the student returns to the university to study specialized disciplines in greater depth. Throughout the training process, practical training should occur more than once.

Of course, major difficulties are evident here as well, extending to potential changes in the entire structure of higher education and increasing employers' interest in direct ties with universities, which, in the realities of the Republic of Kazakhstan, is extremely difficult to accomplish in practice.

In this article, we will not analyze the entire spectrum of AI integration into the educational system; the author will share the experience of introducing first-year, first-semester students to the skills of using AI.

Research methodology

The study employed the following methods:

- **Practice-oriented method:** Developing special methodological guidelines and criteria-based 100-point rating scales for executing sequential assignments (compiling bibliographies, website catalogs, structural tables, and essays).
- **Pedagogical experiment:** Applying neural network tools (primarily the Gemini platform) for automated primary verification of technical parameters in student assignments.
- **Public verbal defense and peer review:** Conducting evaluations and discussions openly, asking clarifying questions to verify academic integrity, detect AI "hallucinations" or fake sources, and eliminate plagiarism.
- **Corrective expert control:** Establishing a system in which AI acts solely as an assistant offering advisory evaluations, while the final verdict is rendered by the instructor based on an analysis of the root causes of student errors.

Specifics of the Kazakhstani higher education system

Because readers are unlikely to be familiar with the system of higher education in Kazakhstan, this context requires explanation. Otherwise, much of the described experience will remain incomprehensible.

The academic year is divided into two semesters of 15 weeks each. Within a semester, there are two midterm controls — at weeks 7 and 15. In some universities, special weeks are allocated for midterm controls (weeks 8 and 16, respectively), while in others, they are conducted during regular academic weeks during scheduled classes. After the 15th week, a 2- to 3-week examination session is provided.

Enrolling applicants pay special attention to the accreditation of the educational institution and the chosen specialty (the presence of authorization from the Ministry of Education and Science to issue state-standard diplomas). Diplomas that do not hold such authorization carry virtually no standing.

Consequently, the Ministry regulates the entire educational process through circulars, standard programs, and similar instruments.

At times, these regulations reflect the discretion of individual officials. For example, a circular was sent ordering that midterm controls be conducted exclusively in test format; shortly thereafter, it was revoked. Over 35 years of independence, Kazakhstan has had 19 different ministers of higher education, and some began their tenure by abolishing the initiatives of their predecessor.

Although attempts to practically implement greater autonomy for instructors in choosing educational tools are declared, the control mechanism itself significantly complicates the implementation of innovative methods.

Teaching is carried out in accordance with the Standard Curriculum (TUP), which defines the names of mandatory disciplines and the hours allocated to mandatory and elective disciplines. For mandatory disciplines, Standard Course Syllabi specify required topics, hourly loads, and seminar topics. This severely limits not only the creative component in teaching but also the application of innovative learning methods.

The Standard Curriculum is divided into several blocks. We will examine the General Education Disciplines (OOD) module, which includes mandatory courses: "History of Kazakhstan" (followed by a State Examination) and "Philosophy," alongside "Political Science," "Cultural Studies," "Sociology," "Psychology," "Russian/Kazakh Language," "Foreign Language," and "Information and Communication Technologies."

At Caspian University, instruction is provided across various degree programs. Consequently, a single lecture stream may include students enrolled in engineering specialties, psychology, jurisprudence, translation studies, and economics.

For the "Political Science" discipline, 7–8 hours of lectures and 14–16 hours of practical classes are allocated. Teaching is conducted either on a modular system or continuously throughout the entire semester.

First-semester students have not yet adapted to higher education, and group social hierarchies are just forming. First-year students often lack analytical skills; while they perform well on multiple-choice tests, they struggle to explain their reasoning. Technical formatting skills (e.g., page orientation shifts) also frequently require foundational instruction.

Assignments are evaluated on a 100-point scale (below 50 is unsatisfactory). Grades are entered into the inter-university "Study Spies" system. A cumulative grading system is applied. Maintaining high academic standards while supporting first-semester students requires a balanced evaluation

approach. The moral and educational role of the instructor is equally paramount (Leontiev et al., 2018).

Practical methodology for integrating AI in teaching

To develop sustainable professional skills, four sequential assignments were introduced:

- Compiling a bibliography;
- Writing an abstract/annotation of a read book (or article);
- Creating a website directory;
- Formatting a table of the political system of a selected country.

In Assignment #1 (Compiling a bibliography), students organize sources into a structured table. Evaluation criteria for an "Excellent" grade (90–100 points) require over 10 correctly formatted, alphabetically sorted sources across multiple media types, with foreign and Kazakh sources placed above Russian ones, accompanied by valid URLs or library call numbers.

Assignment verification is conducted using AI (Gemini). The rubric and student submission are uploaded into Gemini. While initial AI outputs require prompt tuning, the program quickly adapts to identifying technical formatting errors (punctuation, spacing, alignment), allowing the instructor to focus on semantic quality.

Evaluations are conducted publicly using a projector. The instructor conducts root-cause analysis on flagged errors, ensuring academic transparency and integrity. The instructor retains full responsibility for the final grade.

Students also discover that AI source generation must be approached cautiously, as neural networks frequently generate non-existent citations ("hallucinations"), reinforcing the necessity of human verification.

Subsequent assignments reinforce these competencies. In Assignment #4 (Writing an essay/term paper for "History of Kazakhstan"), students frequently utilize ChatGPT. Identical prompts yield duplicate outputs, prompting students to learn proper prompt engineering (specifying styles, chapter-by-chapter generation). The essay must be publicly defended through peer questioning to ensure authentic learning.

Conclusions

Integrating artificial intelligence tools into higher education is an objective necessity that bridges academic preparation and labor market demands. Transitioning from viewing AI as an entertainment service to using it as a technical assistant significantly enhances student independent work.

However, AI integration does not diminish the active role of the instructor; rather, it elevates the instructor's role in developing students' analytical thinking — a capacity that no neural network can replace.

Learning remains possible at any stage; although students arrive from secondary school with low levels of functional literacy — and addressing this is not strictly the role of higher education — the reality is that university instructors are compelled to deal with it.

The author is firmly convinced that any instructor who truly wishes to achieve results must personally make every effort to do so, rather than waiting for instructions from the administration. I hope my experience proves useful to others and serves as a foundation for developing more comprehensive and multifaceted methodological guidelines and practices.

References

Aderikhin, S. V. (2025). Iskusstvennyy intellekt v sisteme obrazovaniya Respubliki Kazakhstan: vozmozhnosti i napravleniya razvitiya [Artificial intelligence in the education system of the Republic of Kazakhstan: Opportunities and directions of development]. *Sci-Article.ru*. https://sci-article.ru/stat.php?i=1767537433

Aleshkovski, I. A., Gasparishvili, A. T., Krukhmaleva, O. V., Narbut, N. P., & Savina, N. E. (2024). Rossiyskie studenty o vozmozhnostyakh i ogranicheniyakh ispol'zovaniya iskusstvennogo intellekta v obuchenii [Russian students on the opportunities and limitations of using artificial intelligence in learning]. *RUDN Journal of Sociology*, *24*(2), 335–353. https://doi.org/10.22363/2313-2272-2024-24-2-335-353

Buzaubakova, K. D., Bedelbaeva, A. E., & Alashbaeva, I. D. (2025). *Teoreticheskie i metodologicheskie osnovy formirovaniya tsifrovykh kompetentsiy budushchikh pedagogov v vuzakh Respubliki Kazakhstan* [Theoretical and methodological

foundations of forming digital competencies of future teachers in universities of the Republic of Kazakhstan]. IP Beysenbekova A.Zh.

Erzatova, M. E., Akybaeva, G. S., & Kosherbaeva, A. B. (2025). Analiz i vnedrenie printsipov ESG v vysshem obrazovanii: integratsiya proektnogo menedzhmenta i praktik ustoychivogo razvitiya v Kazakhstane [Analysis and implementation of ESG principles in higher education: Integration of project management and sustainable development practices in Kazakhstan]. *Central Asian Economic Review*, *6*, 170–185.

Leontiev, O. V., Belyaev, A. M., Rogachev, M. V., & Savenkova, A. E. (2018). *Pedagogika vysshey shkoly* [Pedagogy of higher education]. NDIR of Oncology n.a. N. N. Petrov.

OECD. (2025). *PISA 2025 Results (Volume I): Kazakhstan*. OECD Publishing. https://www.oecd.org/ru/publications/pisa-2025-results-volume-i_e70a9cc9-ru/7d50ea0b-ru.html

Postupi.kz. (2025, August 20). *Iskusstvennyy intellekt v obrazovanii Kazakhstana: fakty i sobytiya* [Artificial intelligence in education of Kazakhstan: Facts and events]. https://postupi.kz/news/fakty-i-sobytiya/iskusstvennyy-intellekt-v-obrazovanii-kazakhstana

Prokhorova, M. P., Vinnikova, I. S., & Kuznetsova, E. A. (2024). Otnoshenie prepodavateley vuza k primeneniyu iskusstvennogo intellekta v obrazovatel'nom protsesse [Attitude of university instructors toward the use of artificial intelligence in the educational process]. *Problems of Modern Pedagogical Education*, *82*(2), 305–309.

Pshikhacheva, A. A. (2023). Vozmozhnosti ispol'zovaniya iskusstvennogo intellekta v praktike vysshego obrazovaniya [Possibilities of using artificial intelligence in higher education practice]. *Society: Sociology, Psychology, Pedagogy*, *4*, 137–141.

Sakhipov, A. A. (2025). *Metodika primeneniya blockchain tekhnologii v vysshikh uchebnykh zavedeniyakh* [Methodology of applying blockchain technology in higher education institutions] (Doctoral dissertation, L. N. Gumilyov Eurasian National University). https://enu.kz/ru/dissertation/72/doctorals/605

Tengrinews. (2025, August 15). *Tokaev poruchil uskorit' vnedrenie II v obrazovatel'nyy protsess* [Tokayev instructed to accelerate the introduction of AI in education]. https://tengrinews.kz/kazakhstan_news/tokaev-poruchil-uskorit-vnedrenie-ii-obrazovatelnyiy-578186/

Tengrinews. (2026, August 26). *"Bol'shoe upushchenie" — Prezidnet oneispolnenii ukaza o vnedrenii II v obrazovanie* ["A major oversight" — President on non-com-

pliance with the decree on AI implementation in education]. https://tengrinews.kz/

Toktarova, V. I., & Popova, O. G. (2023). Ispol'zovanie instrumentov iskusstvennogo intellekta v vysshem obrazovanii [The use of artificial intelligence tools in higher education]. *Vestnik of Mari State University*, *17*(2), 210–220. https://doi.org/10.30914/2072-6783-2023-17-2-210-220

Toktarova, V. I., Rebko, O. V., Khabibrakhmanova, I. I., & Musin, R. A. (2024). *Empiricheskoe izuchenie praktiki realizatsii i ispol'zovaniya instrumentov iskusstvennogo intellekta v obrazovatel'nom protsesse vuza* [Empirical study of the practice of implementing and using artificial intelligence tools in the university educational process]. *Vestnik of Mari State University*, *18*(2), 188–198. https://doi.org/10.30914/2072-6783-2024-18-2-188-198