GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 12, Issue 5 May (2024)

# EFFECTIVENESS OF IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN THE ACTIVITIES OF HIGHER EDUCATION INSTITUTIONS

Marasulova Zulaykho Abdullayevna
Docent of the Kokand State Pedagogical Institute,
Doctor of Philosophy in Pedagogical Sciences (PhD),
E-mail: zmarasulova78mail.ru

Sharipova daughter of Nafisa Omonjon
Kokand State Pedagogical Institute,
3 rd Year Student of English Language and Literature,
sharipovanafisa270@gmail.com

## ABSTRACT

In this article, the implementation of artificial intelligence technology in the higher education system of our republic, based on the analysis of the possibilities of artificial intelligence, the implementation of artificial intelligence technology in the activities of higher education institutions should be implemented. proposals are given for determining the initial measures, development of ways to effectively use the possibilities of artificial intelligence platforms in the higher education system.

**Keywords:** artificial intelligence, intelligent learning systems, cognitive, smart robots, "dual teacher" model, plagiarism detection tools.

# SUN'IY INTELLEKT TEXNOLOGIYASINI OLIY TA'LIM MUASSASALARI FAOLIYATIGA JORIY ETISH SAMARADORLIGI.

Marasulova Zulayho Abdullayevna,
Qo'qon davlat pedagogika instituti dotsenti, pedagogika fanlari bo'yicha falsafa doktori (PhD), E-mail: zmarasulova78mail.ru
Sharipova Nafisa Omonjon qizi
Qo'qon davlat pedagogika instituti Ingliz tili va adabiyoti yo'nalishi 3-kurs talabasi,
sharipovanafisa270@gmail.com

**Annotatsiya:**

Mazkur maqolada respublikamiz oliy ta'lim tizimida sun'iy intellekt texnologiyasini joriy etish etish, sun'iy intellekt imkoniyatlarini tahlil qilish asosida, oliy ta'lim muassasalari faoliyatiga sun'iy intellekt texnologiyasini joriy etish bo'yicha amalga oshirilishi lozim bo'lgan dastlabki chora-tadbirlarni aniqlab olish, oliy ta'lim tizimida sun'iy intellekt platformalari imkoniyatlaridan samarali foydalanish usullarini belgilab olishni rivojlantirish bo'yicha takliflar keltirilgan.

**Kalit so'zlar:** sun'iy intellekt, intellektual ta'lim tizimlari, kognitiv, aqlli robotlar, "dual o'qituvchi" modeli, plagiatni aniqlash vositalari.

## INTRODUCTION

The topic of artificial intelligence is a very urgent problem in the world today. He began to be seen as a good helper in most fields. For example, education, medicine, industry, technology, media and dozens of other fields are entering new stages of development with the help of artificial intelligence. Experts also emphasize that everyone should know about artificial intelligence, that its use will bring great benefits. Artificial intelligence is a set of programs designed to reproduce human skills. Artificial intelligence is an ability that helps to complete tasks such as finding solutions to existing problems, planning, gaining knowledge, and working on oneself in a timely and complete manner.

In a broad sense, artificial intelligence is a branch of the science of developing analytical systems capable of studying and solving complex problems. In a narrow sense, artificial intelligence is a computer training technology based on human thinking. In general, artificial intelligence is a set of models and methods that are able to draw certain conclusions based on received data.

## LITERATURE ANALYSIS

The term "artificial intelligence" was first used by John McCarthy in 1956 at a seminar held at Dartmouth College, an American Ivy League university. The first artificial intelligence program was developed in 1951 by British computer scientist Christopher Strachey. In 1952, this artificial intelligence program learned to play checkers with humans while predicting the moves of its partners. English mathematician and computer scientist Alan Turing even mentioned this system in his article on chess programming published at that time.

## RESEARCH METHODOLOGY

The next stage of development in the field of artificial intelligence corresponds to the mid-1990s. In particular, the IBM Deep Blue supercomputer, which managed to defeat the chess player Garry Kasparov in 1997, causes a lot of noise. The introduction of artificial intelligence technologies into education dates back to the 1970s. Early attempts have featured the use of rule-based artificial intelligence to automatically adapt or individualize learning for each student. Since then, the development of artificial intelligence technologies in education has continued in several directions, in the form of student-oriented artificial intelligence, teacher-oriented artificial intelligence, and system-oriented artificial intelligence. .

## ANALYSIS AND RESULTS

Scientists working in the field of artificial intelligence divide artificial intelligence technology into four main types:

1. Weak artificial intelligence is an artificial intelligence that does not have the ability to accumulate experience and use the collected information. Weak artificial intelligence is designed to perform a specific task and cannot perform additional functions.

2. Artificial intelligence with limited memory is designed to remember pieces of information and analyze the current situation based on them. The accumulated experience is not stored in memory and is not integrated with other data.

3. Powerful artificial intelligence — powerful machines can understand the thinking and motivations of humans, communicate with humans, and even have social and emotional intelligence. Machines similar to powerful artificial intelligence already exist. These include Apple's Siri and Yandex's virtual assistant Alisa. These powerful artificial intelligence tools teach people how to communicate.

4. Superintelligence is the final stage in the development of artificial intelligence that surpasses humans in every way. The emergence of systems of this level is possible when scientists fully study and model the working system of the human mind. Today, artificial intelligence technologies are widely used in the field of education, as well as in all fields. The use of artificial intelligence technology in education is a direct factor that serves to improve the quality of education.

The use of artificial intelligence technology in the field of education is manifested in the following forms:

1. Using artificial intelligence to provide educational services and manage the learning process. System-oriented artificial intelligence applications are designed to automate higher education management processes based on information systems. Their category includes tasks such as enrolling students, drawing up a lesson schedule, monitoring attendance and independent work, and checking the quality of education. Artificial intelligence technologies demonstrate their capabilities in improving the educational process through the following platforms:

– educational chatbots. Chatbots are online computer software that use cloud services and artificial intelligence techniques to analyze human conversations and respond. More and more chatbots are being used in educational programs. After the user (participants of the educational process) writes or speaks a question, the chatbot displays the answer, provides information or performs a given task. Educational chatbots include Ada, owned by Canada's Ada Support, and DeakinGenie, developed by Deakin State University in Australia;

- The OUAnalyse platform is an AI-based application by Open University UK to predict student performance and identify students at high risk of dropping out. The application uses big data analysis from the university's education management information system. The main purpose of the application is to enable students with difficulties to complete (graduate) their studies;

- The Swift platform is a set of methods developed by SwifteLearningServices in India to help the learning management information system use the data generated in the e-learning module. From data collected through student interactions, Swift provides important insights into when and why a student is struggling or succeeding in learning. Swift analyzes this data to help create individualized learning trajectories based on student preferences;

- The "ALP" platform is an internal tool based on artificial intelligence for the US education system to support standard educational technologies. The system analyzes each student's data and collects information to create a psychometric profile of their interactions, preferences and achievements;

- The "UniTime" platform is a project jointly developed by major US IT companies. UniTime 9 is an AI-based educational planning system that develops university course and exam schedules, groups students, and creates personalized schedules for students.

2. Using artificial intelligence for learning and performance evaluation. AI, known as the "Fourth Revolution in Education", aims to provide quality, personalized and accessible lifelong learning (both formal and informal) to every student, regardless of location. directed. The field of artificial intelligence focused on learning and performance evaluation can also be used to:

- intellectual education systems. The task of intelligent education systems is to provide step-by-step learning activities that are individual for each student in a block of compulsory subjects such as mathematics or physics. The system determines the best learning trajectory based on subject matter and cognitive science expertise, and through instructional materials and classrooms that respond to individual student challenges or successes. This approach is sometimes used in learning management systems such as Moodle and OpenedX or Used on platforms like KhanAcademy. As a student engages in learning activities, the system uses knowledge tracking and machine learning algorithms to automatically adjust the level of difficulty and provide tips or recommendations based on each student's strengths and weaknesses.

- interactive educational systems. Dialogue-based learning systems use natural language processing and other artificial intelligence techniques to learn and simulate conversations between teachers and students in sequential online tasks. Most of the interactive educational systems were developed as part of research projects.

- cognitive educational environment. In a cognitive learning environment, the role of artificial intelligence is to minimize the cognitive overhead associated with cognitive processes through automated guidance and feedback based on knowledge tracking algorithms and machine learning.

– automatic writing assessment. It is necessary to use natural language processing and other artificial intelligence methods to create an opportunity for students working on a computer to give automatic feedback during the writing process.

- reading and learning languages with the help of artificial intelligence. Artificial intelligence technology compares sample recordings of native speakers to provide speech recognition, automatic feedback, and help students improve their pronunciation.

– intelligent robots. The prospect of using artificial intelligence-enabled robots is very useful in the context of educational processes, especially in the context of teaching students with disabilities or learning difficulties. For example, humanoid robots have been created that provide mechanical interactions and can create speech for a student with autism spectrum disorders or physical disabilities. The main purpose of these robots is to develop communication and social skills of students;

- virtual and augmented reality. Virtual and augmented reality are two interrelated innovations used in the context of education, often combining machine and artificial intelligence techniques to improve the user experience.

- learning network architecture. They are tools that allow network groups of students and teachers to participate in the educational process and organize educational activities. A learning network architecture can typically focus on the availability of participants, the choice of topic based on industry and expertise, and the development of collaboration.

- Using artificial intelligence to expand the capabilities of professors and teachers in educational processes.

- monitoring forum discussions using artificial intelligence. Artificial intelligence technologies are used to support online education, especially to assist faculty or provide technical assistance in monitoring various discussion forums.
- "dual teacher" model.
- teacher's assistant based on artificial intelligence technologies. As noted, many technologies have been developed to free teachers from time-consuming tasks such as monitoring attendance, grading assignments, and answering the same questions over and over again.

The implementation of artificial intelligence technology in the activities of higher education institutions provides them with the following advantages:

1. Personalized Learning: artificial intelligence helps to provide personalized learning by creating customized curriculum and content based on students' knowledge level and potential.
2. Enhanced Efficiency: AI technologies can automate administrative tasks such as evaluation, planning, and record keeping.
3. Intelligent tutoring systems (Intelligent Tutoring Systems): educational technologies based on artificial intelligence can immediately respond to students' requests, make suggestions and recommendations, and provide guidance.
4. Analysis based on data (DataDriven Insights): thanks to the ability of artificial intelligence to quickly process large amounts of educational data, analytical documents can be prepared easily and without losing time.
5. Accessibility and Inclusivity: artificial intelligence will facilitate the educational process of students with disabilities or special needs by providing alternative learning platforms, adaptive and assistive technologies.
6. Plagiarism Detection: artificial intelligence-based plagiarism detection tools help faculty closely identify plagiarism by comparing student work with extensive databases of scholarly resources and published materials.

## CONCLUSION

In conclusion, it can be said that artificial intelligence offers various opportunities for additional learning of relevant educational materials by analyzing students' learning methods and their preferred learning resources. This system monitors students remotely during the exam process and helps prevent potential fraud. Artificial intelligence can remotely assess students and help ensure academic integrity and fairness, and help prevent emotional and mental stress for students. The AI-powered platform offers flexible exercises, pronunciation feedback, and text-based language training for students learning various foreign languages. AI can help improve overall student achievement by providing targeted support to students who are struggling to stay out of academic debt.

## REFERENCES

1. PRIORITY DIRECTIONS OF EFFICIENCY OF USE OF DIGITAL TECHNOLOGIES IN THE EDUCATIONAL SYSTEM. M.Z.Abdullayevna
2. Analysis of The Integration of Information Technologies and Pedagogical Technologies in Higher Education. MZ Abdullayevna, AZ Siddiqovna, ZM Khabibovna, Journal of Advanced Zoology, 2023 • search.ebscohost.com

3. DEVELOPMENT MECHANISMS OF DISTANCE EDUCATION IN THE DIGITAL WORLD MZ Abdullayevna, Galaxy International Interdisciplinary Research Journal, 2023 • giirj.com
4. Problems of Ensuring the Continuity of the Subject" Compyuter Science and Information TECHNOLOGY" in the System of Continuing Education. Marasulova Zulayho Abdullaevna
5. Using Digital Technologies to Ensure the Integrity of the General Secondary Education System. Marasulova Zulayho Abdullayevna
6. ENSURING CONTINUITY AND CONTINUITY OF THE SCIENCE OF" INFORMATION AND INFORMATION TECHNOLOGIES" IS A FACTOR OF STABILIZING THE QUALITY OF EDUCATION.MZ Abdullaevna, AZ Siddikhovna, EK Muydinjonovna, ZM Khabibovna International Journal of Early Childhood Special Education 14 (7)
7. Ergasheva, Xilolaxon. "TENGSIZLIK TUSHINCHASINI KIRITISH METODIKASI." Interpretation and research 1.1 (2023).
8. Ergasheva, Hilola. "DEVELOPING İNDUCTİVE AND DEDUCTİVE REASONING İN STUDENTS." Scientific Bulletin of Namangan State University 3.5 (2021): 22-26.
9. Muydinjonovna, Ergasheva Xiloloxon. "Solving economic issues in MATHCAD." INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 7.429 11.07 (2022): 5-10.
10. Ergasheva, Khilola Muydinjonovna. "THE WONDERFUL SECRETS OF MATHEMATICS." Scientific Bulletin of Namangan State University 2.6 (2020): 10-14.
11. Ergasheva, Khilolokhan Muydinjonovna. "CALCULATION METHODS IN PRIMARY SCHOOL." Galaxy International Interdisciplinary Research Journal 10.11 (2022): 665-670.
12. Muydinjonovna, Xiloloxon Ergasheva. "BOSHLANG'ICH SINF O'QUVCHILARIGA RAQAMLI TEXNOLOGIYALAR ASOSIDA TA'LIMNING INTEGRATSIYASINI TA'MINLASH." Yangi O'zbekiston taraqqiyotida tadqiqotlarni o'rni va rivojlanish omillari 1.1 (2023): 271-275.
13. Rustamovich, Sultonov Ravshanbek, and Toshmatova Ziroatxon Esonovna. "FORMATION OF STUDENTS'INTERESTS IN THE STUDY OF SCIENCE, KNOWLEDGE AND SKILLS IN TEACHING PHYSICS." Open Access Repository 8.12 (2022): 517-520.
14. Esonovna, Toshmatova Ziroatxon. "FIZIKA FANINI O'RGATISHDA O'QUVCHILARNI FANNI O'RGANISHIGA BO'LGAN QIZIQISHLARINI, BILIM VA KO'NIKMALARNI SHAKLLANTIRISH." Scientific Impulse 1.5 (2022): 361-364.
15. Rahmonova, Manzura. "THE UNDERSTANDING OF HUMAN CAPITAL INDEX AND ANALYSIS OF ITS SITUATION IN UZBEKISTAN." Interpretation and researches 1 (2023).
16. Shokirovna, Rakhmonova Manzura. "ORGANIZATIONAL AND ECONOMIC MECHANISMS OF ADMINISTRATIVE ACTIVITY IN THE FIELD OF EDUCATION." Galaxy International Interdisciplinary Research Journal 11.11 (2023): 1041-1044.

17. Rahmonova, Manzura. "Inson Kapitali Indeksi Tushunchasi Va O'zbekistonda Uni Holati Tahlili." Interpretation and researches 1.1 (2023).
18. Shokirova, Rahmonova Manzura. "MANAGEMENT DIRECTIONS OF HUMAN CAPITAL DEVELOPMENT." Academia Repository 4.10 (2023): 259-263.
19. Sh, Madraximov Sh. "MATEMATIKA O 'QITISHDA IQTISODIY MASALALARNI ISHLAB CHIQARISH JARAYONLARIGA TADBIQIY YECHISH HAQIDA." Экономика и социум 6-1 (109) (2023): 243-246.
20. Shukurovich, Shukhratjon Madrakhimov, and Makhfuza Madrakhimova Akhmedovna. "UTILIZING INTERACTIVE METHODS IN COMPUTER CLASSES: ENHANCING LEARNING AND ENGAGEMENT." Galaxy International Interdisciplinary Research Journal 11.12 (2023): 1121-1124.
21. Ikromovich, Khanbabaev Khakimjon, Tashpulatov Rakhimjon Ismailovich, and Madrakhimov Shukhratjon Shukurovich. "METHODS OF TEACHING LANGUAGES PROGRAMMING BASED ON THE DESIGN METHOD."
22. Akhmedovna, Makhfuza Madrakhimova, and Shukhratjon Madrakhimov Shukurovich. "CHALLENGES AND MITIGATION STRATEGIES IN THE DEVELOPMENT OF COMPUTER SCIENCE." Galaxy International Interdisciplinary Research Journal 11.12 (2023): 1130-1133.
23. Shukurovich, Shukhratjon Madrakhimov, and Makhfuza Madrakhimova Akhmedovna. "A COMPREHENSIVE OVERVIEW OF THE EVOLUTION OF COMPUTER SCIENCE: MILESTONES AND DEVELOPMENT STAGES." Galaxy International Interdisciplinary Research Journal 11.12 (2023): 1125-1129.
24. Shukurovich, Madraximov Shuxratjon, Madraximova Maxfuza Axmedovna, and Abdullayev Alibek Qodiraliyevich. "RELATIONSHIP OF QUATERNIONS AND VECTOR ALGEBRA." INTERDISCIPLINE INNOVATION AND SCIENTIFIC RESEARCH CONFERENCE. Vol. 2. No. 15. 2023.
25. ENSURING CONTINUITY AND CONTINUITY OF THE SCIENCE OF" INFORMATION AND INFORMATION TECHNOLOGIES" IS A FACTOR OF … MZ Abdullaevna, AZ Siddikhovna, EK Muydinjonovna… - International Journal of …, 2022.
26. Ablakimov Bekzod G 'ayratjon o 'g."AZ Siddiqovna. Jamiyat Kiberhujumlariga Qarshi Kurashishning Chora–Tadbirlari." Innovative …
27. Informatika va axborot texnologiyalari fanidan elektron interfaol o'quv- uslubiy majmualar yaratishning nazariy asoslari ZS Ahmedova Namangan davlat universiteti ilmiy axborotnomasi 22 (4), 935-938
28. INNOVATIONS AND ADVANCED FOREIGN EXPERIENCES IN TEACHING MODERN INFORMATION TECHNOLOGIES IN THE EDUCATIONAL PROCESS AZ Siddikovna Galaxy International Interdisciplinary Research Journal 11 (12), 155-158
29. INFLUENCE AND THREAT OF VIRTUAL CULTURE ON NATIONAL CULTURE AZ Siddikovna Galaxy International Interdisciplinary Research Journal 11 (12), 150-154
30. ЗС Ахмедова, З Мухитдинова ВЛИЯНИЕ И УГРОЗА ВИРТУАЛЬНОЙ КУЛЬТУРЫ НА НАЦИОНАЛЬНУЮ КУЛЬТУРУ.