JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
VOLUME 5, ISSUE 05
MONTHLY JOURNALS
ISSN NUMBER: 2751-4390
IMPACT FACTOR: 9,08

INFLUENCE AND ROLE OF ARTIFICIAL INTELLIGENCE ON EDUCATIONAL PROCESSES

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Annotation: The article describes the concept of artificial intelligence, its principles of operation, and possibilities of its application in the educational process. The importance of the knowledge base, decision-making process, neural networks, and natural language technologies in the educational process is considered. Also, the issues of organizing an individual approach to students with the help of artificial intelligence, determining the level of knowledge, and increasing the effectiveness of teaching are covered.

Keywords: artificial intelligence, education, knowledge base, neural networks, natural language technologies, individual approach, digital education.

INTRODUCTION

Nowadays, modern technologies are developing rapidly. In particular, innovations in the field of artificial intelligence are being used in many areas. The need to use artificial intelligence in the education system is also felt. Today, one of the pressing issues is the effective organization of the educational process, determining the level of knowledge of students and ensuring an individual approach to them.

The term artificial intelligence was proposed in 1956 at a seminar of the same name at Stanford University (USA). The seminar was intended not for calculation, but for the development of logical tasks. After artificial intelligence was recognized as an independent field of science, it was quickly divided into two main areas: neurocybernetics and "black box" cybernetics.

Problems with the use of artificial intelligence in education Automation and the use of artificial intelligence can lead to job losses and changes in the skills required in the labor market; the use of artificial intelligence can pose a threat to the privacy and security of personal data due to the possibility of massive data collection and analysis; dependence on technology can reduce critical thinking and intuitive decision-making; the risk of increasing inequality due to the use of artificial intelligence technologies and digital education.

Artificial intelligence technologies are becoming an important tool in fulfilling these tasks. With their help, it is possible to manage the learning process, analyze knowledge, and increase the effectiveness of teaching. Therefore, it is important to study the impact of artificial intelligence on education and analyze its capabilities.

Main part. Artificial intelligence (AI) is a field of science that studies the ability of computer systems to perform tasks characteristic of human intelligence, such as thinking, analyzing, and making decisions. The concept of intelligence refers to the ability of a person to use.

The term artificial intelligence was introduced into scientific circulation in the United States in 1956, and initially scientists believed that it would be possible to create a “thinking machine” in a short time. However, over time, it became clear that this process was much more complicated. Despite this, significant scientific and practical results have been achieved in the field of AI.

Jumayeva Kh. Advantages of artificial intelligence in the work of teachers, Pardayeva D.N., Niyazov F.Kh., Khushbokov I.U. History of artificial intelligence, stages of development and its role in human life, Malikova D.M. Nurillayeva E'.Sh. have covered Artificial intelligence and its importance in human life in their scientific research works.

Jumayeva Kh. analyzed the role of artificial intelligence technologies in improving the work of teachers in the education system. She showed that the effectiveness of the pedagogical process can be increased by automating lesson planning, individualization of education, assessment and monitoring systems.

The main task of artificial intelligence is to bring computers to a level where they can solve complex problems using methods close to human thinking. Unlike the traditional algorithmic approach, intelligent systems rely on a repository of knowledge, analyze the problem and select the optimal solution. It is precisely these opportunities that are of great importance in the field of education. Intelligent systems help analyze the level of knowledge of students, form an individual approach, and organize the process of step-by-step solving of complex problems. Platforms based on knowledge repositories and expert systems allow for effective management of the learning process.

The main feature of intelligent systems is that they operate based on knowledge. Therefore, the issue of "knowledge representation" plays an important role in the field of artificial intelligence. Knowledge representation is the process of representing information stored in the system's memory based on a certain model and formal structure.

In traditional computing systems, information is stored in procedural (algorithms) and declarative (data) forms. In artificial intelligence systems, these two types of information are combined to form a knowledge base. The knowledge base consists of information, rules, and logical connections about a specific area and is the main source in the system's decision-making process.

Knowledge representation is especially important in the field of education. Because adaptive learning systems structure learning materials, analyze the student's level of knowledge, and develop individual recommendations. Intelligent systems based on a knowledge base allow you to manage the learning process, assess knowledge, and predict results. Therefore, the correct modeling of knowledge and its effective organization in the system's memory are one of the main factors determining the effectiveness of artificial intelligence in education.

Decision-making is one of the important functions of artificial intelligence systems. Intelligent systems analyze several options based on specific data and select the optimal solution. In this case, the system relies on the existing knowledge base and logical rules.

The decision-making process in complex situations involves comparing alternative options, assessing their effectiveness, and selecting the most optimal one. This approach is close to the human thinking process and requires in-depth analysis of data.

It will be possible to create a learning path tailored to the student.

One of the modern directions of artificial intelligence is neural networks and natural language processing technologies. Neural networks are structured in a way similar to the working principle of the human brain, allowing them to analyze large amounts of data, identify patterns, and learn complex connections. In the field of education, neural networks are used to determine the level of knowledge of students, assess their learning speed, and develop individual learning strategies. Such systems increase the effectiveness of teaching by adapting educational material to the student's abilities.

Natural language processing technologies allow for text and speech analysis, answering questions, and creating virtual assistants. In the educational process, chatbots and intelligent assistants help students work independently, quickly answer questions and provide explanations.

Also, speech recognition and automatic text analysis systems serve as effective tools for checking written work, identifying errors, and developing students' language skills.

Thus, neural networks and natural language technologies bring the educational process to a digital and interactive level, creating a convenient and flexible environment for students. In addition, there are developing artificial intelligence projects in the areas of expansion, automation of systems in the workplace, analysis and learning in various fields, management of transport systems, distance learning systems in education, enterprise employee evaluation systems (KPI) and many other areas.

Conclusion. Artificial intelligence is emerging as an important factor in increasing the efficiency of the education system. Intelligent systems allow for knowledge modeling, decision-making, and individualization of the learning process. Platforms based on neural networks and natural language technologies are widely used to analyze the level of knowledge of students, adapt educational materials, and develop distance learning.

At the same time, when using artificial intelligence, special attention should be paid to issues such as technological dependence, academic integrity, and data security. It is important that artificial intelligence is used as an auxiliary tool in the educational process, and the human factor remains a priority. In the future, the combination of artificial intelligence and traditional pedagogical approaches will ensure the sustainable development of the quality of education.

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