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Scientific and Theoretical Basis of Personnel Training Based on Artificial Intelligence and Innovative Approach

Karimov Abdusamat Ismonovich

University of Business and Science Dotsenti, Uzbekistan

Bo'stonova Nilufar Abdusamatovna

Andijan State Technical Institute, Teacher, Uzbekistan

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Abstract: This article explores the scientific and theoretical foundations of personnel training based on artificial intelligence (AI) and innovative approaches in the context of the modern labor market and the digital economy. The research substantiates the necessity of transitioning from traditional educational models to adaptive and personalized learning systems. The article analyzes the paradigms of "human-machine" collaboration, competency transformation, and lifelong learning in the process of professional training. Furthermore, existing challenges in developing an innovative educational environment are identified, and strategic solutions and recommendations are proposed to address them.

Keywords: Artificial intelligence, innovative approach, personnel training, adaptive learning, digital competence, personalized learning, human capital, lifelong learning.

Introduction: In the current conditions of globalization and the digital economy, the development of human capital is becoming one of the priority tasks of every state. In particular, the rapid development of artificial intelligence technologies and their widespread introduction into the production, service and management sectors require new approaches to the personnel training system. Therefore, the training of specialists with modern knowledge and skills, who can think innovatively and effectively use digital technologies has become an urgent issue.

Artificial intelligence allows not only to optimize production processes, but also to radically change the education system. It serves to implement individualized training, introduce automated knowledge assessment systems, and improve the quality of education. At the same time, innovative approaches expand the opportunities for the formation of creativity, problem-solving and practical skills in the process of personnel training.

The relevance of this topic lies in the fact that the traditional education system cannot fully meet the requirements of the modern labor market. Today, employers require specialists who not only have theoretical knowledge, but also can apply digital technologies in practice, who can adapt quickly and make independent decisions. This creates the need to integrate artificial intelligence and innovative approaches in the education system.

The purpose of the scientific article is to study the scientific and theoretical foundations of personnel training based on artificial intelligence and innovative approaches, to reveal their essence and to identify ways of their effective introduction into the education system. To achieve this goal, the following tasks are set: to analyze the role of artificial intelligence in the economy and education, to study the basic principles of innovative approaches, to develop scientifically based proposals for improving the modern personnel training system.

Thus, the issue of training personnel based on artificial intelligence and innovative approaches is of great importance not only theoretically, but also practically. Scientific research in this area serves to increase the country's competitiveness, ensure economic growth, and form human capital with modern knowledge.

The current stage of human development is associated with the "Fourth Industrial Revolution", which is characterized by the penetration of intellectual technologies into all areas. Artificial intelligence is no longer just a technical tool, but a strategic resource that shapes socio-economic relations.[1] In these conditions, the personnel training system is forced to reconsider its fundamental principles. Currently, the demand for personnel is not limited to theoretical knowledge alone. In the conditions of the digital economy, specialists are required to have technological flexibility, systematic thinking, and the ability to work with artificial intelligence.[3] Therefore, the application of innovative approaches in the education system and the creation of their scientific and theoretical foundations are the requirements of the time.

Transforming the training system in the AI environment requires not just introducing new subjects into the curriculum, but a radical renewal of conceptual approaches that are the methodological basis of education. This process is based on the following scientific and theoretical pillars. The traditional education system is based on the "average student" model, in which all students are given the same amount of information at the same pace. However, in the era of intelligent technologies, this approach has lost its effectiveness. The scientific basis of the adaptive education concept is based on constant monitoring of the cognitive (knowledge) characteristics of the learner, the speed of information perception, and the motivational state.[2]

Using AI algorithms, an "individual educational trajectory" is drawn for each student.[2] This theoretically means that the learning system adapts to the strengths and weaknesses of the student: if the student quickly masters a topic, the system moves to a more complex level, otherwise it offers other methods of explanation (visual, audio or interactive). This approach raises the theory of "inter-zonal development" in pedagogy to the digital level. In modern scientific theories of personnel training, the main emphasis is not only on the acquisition of knowledge (Knowledge), but also on the formation of functional competencies (Skills). [4-5] The advent of artificial intelligence has changed the hierarchy of skills expected in the labor market.

METHODOLOGY

From a scientific and theoretical perspective, this transformation manifests itself in two directions:

-Digital Fluency: This is not only the ability to program, but also the ability to communicate with artificial intelligence, correctly interpret the results of data analysis, and creatively use technological tools.

-Human Advantage: As algorithms take over repetitive and logical tasks, there is an increasing focus on skills that machines cannot replace in training - such as heuristic thinking, ethical decision-making, empathy, and systematic analysis of complex problems.

In modern conditions, knowledge is being updated so quickly that the knowledge obtained in a higher educational institution may lose its relevance by the time the graduate starts working. Therefore, the paradigm of "Continuous Learning" is being recognized as the scientific basis for training.

The theoretical roots of this concept are associated with acmeology (the science of human development), which teaches a specialist to work on himself throughout his career and adapt to new technologies. Here, artificial intelligence acts as a "personal tutor" or "intelligent mentor", creating the opportunity for a specialist to improve his skills without being separated from the work process. Another theoretical basis for innovative personnel training is Constructivism. According to it, knowledge is not passively received, but is actively constructed by the student. Artificial intelligence and the virtual reality (VR) environment allow the student to simulate real production processes, laboratory experiments or management decisions in a safe digital space. This takes the principle of "learning by doing" to a new, high-tech level. Adapting the personnel training system to modern requirements requires not only technical updating, but also reforming all links, from educational management to teaching methodologies. Below is an analysis of the main strategic solutions aimed at optimizing this process:

The future education system should not completely replace the teacher with AI, but rather rely on their effective symbiosis. The essence of this solution is that artificial intelligence systems will take on the task of collecting data, testing student knowledge, and performing regularly recurring technical tasks. The teacher will focus on the spiritual and moral education of the student, the formation of critical thinking in him and creatively solving complex problems (mentoring). This hybrid approach, while increasing the effectiveness of education, will further enhance the value of the human factor. In personnel training, it is necessary to abandon long-term and fixed curricula and switch to flexible "Micro-modular" training. Based on

artificial intelligence analyses, short but highly intensive training courses should be formed for each specialist, based on his current level of knowledge and labor market requirements. This solution will allow the student to identify his weak points and eliminate them in real time. As a result, a university graduate will have not only "general knowledge", but also a set of specific practical skills. The biggest obstacle to connecting theoretical knowledge with practice is the lack of an expensive technical base or dangerous production conditions. As an innovative solution, the widespread introduction of VR and AR technologies into the educational process is proposed. With this, future engineers, doctors or pilots can perform thousands of simulations in a safe digital environment. These systems, operating with mathematical precision, analyze each student's movements and indicate errors, which reduces real risks in production and training costs by several times.

RESULTS

One of the proposed solutions is to combine educational institutions, employers and artificial intelligence (AI) platforms into a single, integrated ecosystem. This ecosystem, operating on the basis of modern digital infrastructure, allows for real-time monitoring of changes in supply and demand in the labor market. As a result, the process of identifying new professions, competencies and qualification requirements in various sectors of the economy is automated.

One of the important advantages of such a system is the provision of an individual approach. That is, the existing knowledge and skills of each specialist are analyzed and, accordingly, clear and well-founded recommendations are formulated on which new competencies they need to acquire. This serves to effectively implement the principle of lifelong learning in practice. Thus, the constantly updated knowledge base of personnel increases their competitiveness in the labor market.

This approach has a significant impact on reducing the widespread problem of the “skills gap” in the economy. Because in the traditional education system, knowledge often lags behind market needs, the proposed ecosystem reduces this gap and ensures a strong connection between education and practice. As a result, highly qualified personnel are trained that meet the requirements of employers and the employment rate increases.

At the same time, the formation of ethical norms for working with artificial intelligence as an integral component of personnel training in an innovative approach is of great importance. In the current digital era, ethical issues in the use of AI technologies are becoming more relevant - such as data confidentiality, algorithmic impartiality, the risk of discrimination, and the transparency of decision-making. Therefore, specialists need to have not only technical knowledge, but also critical thinking and ethical assessment skills.

Personnel should have the ability to analyze, question, and evaluate the results provided by algorithms based on human values, rather than blindly accepting them. This will ensure effective cooperation between humans and artificial intelligence and form a culture of responsible use of technologies.

In order to implement these tasks, it is a strategic necessity to include subjects such as “Digital Ethics” and “Data Hygiene” in the curricula of all educational programs. Through these modules, students will acquire the culture of working with personal and institutional data, methods of protecting them, as well as skills to protect themselves from incorrect or harmful information.

DISCUSSION

Restructuring the personnel training system based on artificial intelligence and innovative approaches is not just a temporary technological need, but a fundamental strategy that ensures global competitiveness. Based on the results and analysis obtained during the study, the following final conclusions can be drawn:

Firstly, traditional models of personnel training have completed their extensive development stage. Artificial intelligence is entering the educational process not just as an auxiliary tool, but as the main catalyst that controls the quality of education and personalizes it. This serves to form not a "knowledge base" in learners, but "the ability to apply and update knowledge".

Secondly, the most important competencies for future specialists are "technological flexibility" and "complex systemic thinking". In conditions where artificial intelligence takes over routine algorithms, the human factor retains its value only in areas where a creative approach, ethical analysis and emotional intelligence are required. Therefore, ensuring the balance between "Hard skills" and "Soft skills" in the education system must remain the main criterion for training innovative personnel.

Thirdly, the role of digital platforms in establishing a "dynamic connection" between higher education institutions and the labor market is invaluable. Personnel training should be viewed not as a process that ends with receiving a graduation diploma, but as a lifelong learning ecosystem that continues throughout a person's life.[5] In this regard, the implementation of

the digital model of state, higher education and industry cooperation (Triple Helix) will dramatically increase the country's intellectual potential.

Future prospects show that in the next decade, education will completely transition to a hybrid form. In this case, artificial intelligence will become the intellectual "shadow" of every person, helping him to maximize his potential. However, in this process, maintaining human values, moral standards and a level of critical observation remains the greatest task of pedagogical science. In short, training personnel based on an innovative approach means teaching people not to compete with machines, but to effectively use machines to increase their intellectual power. Only societies that are able to combine technology and human intelligence will become true leaders of the future.

CONCLUSION

Artificial intelligence and innovative approaches, as one of the most important drivers of the modern economy, are fundamentally changing the system of personnel training. Traditional educational models are gradually being replaced by flexible, individualized and integrated systems with digital technologies. The possibilities of optimizing the process of providing knowledge based on artificial intelligence and organizing education tailored to the individual abilities and needs of students are expanding.

The results of the study show that the use of artificial intelligence:

-increases the quality of education;

-ensures the efficiency of the educational process;

-allows training competitive personnel suitable for the labor market;

-develops innovative thinking and a creative approach.

At the same time, there are also problems in this area, including insufficient infrastructure, low digital competencies of teachers, and incomplete formation of a methodological base for the use of artificial intelligence technologies.

In general, the development of a personnel training system based on artificial intelligence and innovative approaches is an important factor in sustainable economic growth and increasing the intellectual potential of society.

Proposals and recommendations:

1. Accelerate the digitalization of the education system

2. It is necessary to develop a modern technical infrastructure for the introduction of artificial intelligence technologies in educational institutions.

3. Improve the skills of teaching staff

4. It is necessary to strengthen the system of regular retraining and advanced training of teachers in artificial intelligence and digital technologies.

5. Strengthen the integration of education and production

6. It is necessary to establish training of personnel with practical skills through the development of cooperation between enterprises and educational institutions.

7. Support for startups and innovative projects

8. It is necessary to develop grants, incubation centers and technoparks to stimulate innovative ideas of students and young specialists.

9.Develop a national strategy

10.It is important to develop a long-term national strategy for training personnel based on artificial intelligence and implement it gradually.

11.Improvement of ethical and legal standards

12.In the use of artificial intelligence, information security, protection of personal data and strengthening of ethical standards are required.

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