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AI as trend technology for innovative economy of philology education during crisis

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Abstract. *The paper examines the role of artificial intelligence (AI) in strengthening philology education within the innovative economy, especially under crisis conditions. AI ensures adaptive and personalized learning, supports distance education, and helps maintain continuity of the educational process. Its integration fosters digital and linguistic competencies, critical thinking, and effective work with large volumes of information. Hybrid AI, combining symbolic and neural approaches, enhances automated text analysis, adaptive language learning, and prediction of educational outcomes. Thus, AI is a strategic tool for sustainable and competitive philology education in periods of instability.*
Keywords: *innovative economy, philology education, artificial intelligence, crisis.*

Introduction.

The main goal of the innovative economy (and the sphere of educational services is its important warehouse) of services is to ensure sustainable economic growth [1], increase production efficiency and manage knowledge as a strategic resource [2]. It stimulates scientific and technological progress, digital transformation [3] and the introduction of artificial intelligence in various areas [4], including industry, education and services. The modern world economy is characterized by a high degree of uncertainty [5], instability [6] and periodic crises [7] caused by both internal structural factors and global external shocks. BUT traditional models of economic development in such conditions are often not flexible enough [8] and are not able to ensure sustainable growth [9]. It is the innovative economy that is based on intellectual capital, scientific research and technological innovation [10], which allows enterprises, industries and states to reduce uncertainty and risks [11], [12], increase efficiency and create new products, services and business models. Therefore, artificial intelligence (AI) is today one of the key technologies that shape the modern innovative economy [13]. Both AI paradigms (symbolic [14] and neural network [15]) not only increase the efficiency of enterprises and [16], but also ensure the flexibility and adaptability of economic systems, allowing to minimize the consequences of external and internal shocks.

The Main Part.

Modern philological education faces numerous challenges: rapid changes in the educational environment, limited resources, uncertainty in access to quality teaching materials, and crisis phenomena such as pandemics or economic downturns. In these conditions, artificial intelligence (AI) is becoming a key technology capable of

ensuring the efficiency, adaptability, and personalization of learning. AI allows you to automate routine processes - knowledge assessment, creation of interactive teaching materials, adaptation of assignments to the student's level, analysis of academic performance, and forecasting of educational results. In addition, AI technologies contribute to the development of 21st century competencies such as digital literacy, critical thinking, and the ability to work with large amounts of information. In periods of instability and crisis, the use of AI is especially important, as it ensures continuity of learning, access to educational resources in a remote format, and the ability to provide personalized support to each student, regardless of external conditions. The integration of AI into philological education helps improve the quality of training specialists, develop skills in working with language data and digital technologies, and create a sustainable educational process in conditions of uncertainty.

Conclusions.

1. Artificial intelligence provides philological education with tools for adaptive and personalized learning, increases the effectiveness of teaching and the learning process, allowing to take into account the individual needs of students. AI helps to analyze educational data, predict success and identify areas for improvement, which is especially important in conditions of instability and crises. Artificial intelligence technologies support distance learning, create interactive materials and ensure the continuity of the educational process. The integration of AI develops digital and linguistic competencies, prepares students to work with language and information technologies and forms a sustainable educational system that can function effectively even in difficult economic and social conditions. AI is becoming a strategic tool that helps educational institutions maintain the quality and accessibility of education, stimulates innovation and increases the competitiveness of graduates in the labor market.

2. Modern philological education faces a number of challenges, including a rapidly changing educational environment, limited resources, uncertainty and crisis situations such as economic downturns or global pandemics. In such conditions, hybrid artificial intelligence (Hybrid AI) is becoming a promising technology capable of optimizing educational processes, improving the quality of learning, and personalizing the educational experience. Hybrid AI combines symbolic approaches (based on rules and logic) and subsymbolic methods (neural networks, machine learning), which allows creating systems that are simultaneously capable of logical reasoning and learning from data [17]. In philological education, this opens up opportunities for automated text analysis, adaptive language learning, creation of interactive teaching materials, and prediction of educational outcomes.

Discussion.

The future of effective education in times of crisis requires a comprehensive understanding of complex socio-economic and information environments. The authors [18] rightly

emphasize the importance of examining critical phenomena in complex economic systems, which allows identifying potential risks and instability factors that can affect educational institutions. The use of a systemic methodology for studying the dynamics of the modern information economy in conditions of increasing instability [19] provides a framework for predicting and adapting to rapid changes. In addition, synergistic and econophysical methods for studying the dynamic and structural characteristics of economic systems offer innovative tools for modeling and optimizing the allocation of resources, organizational processes and learning outcomes [20]. The integration of these approaches contributes to the development of sustainable, adaptive and effective educational systems that can maintain the quality and continuity of education during crises, as well as stimulate sustainable innovation and informed decision-making.

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