DIGITALIZATION OF MILITARY EDUCATION IN NATO COUNTRIES AS A FACTOR IN IMPROVING THE QUALITY OF MILITARY PERSONNEL TRAINING

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Abstract. The article examines the main directions of digitalization in military education in NATO countries and its impact on the quality of military personnel training. The study focuses on distance learning, virtual simulation, digital educational platforms, and artificial intelligence. The importance of digital technologies for improving the flexibility, practical orientation, and effectiveness of military education is substantiated.

Keywords: digitalization, military education, NATO, military personnel training, digital technologies, virtual simulation, artificial intelligence.

Introduction. Digital transformation is one of the most important directions in the development of contemporary military education. Changes in the nature of military activity and advances in artificial intelligence, information systems, and modeling technologies place new demands on the professional training of servicemen [1; 5]. A modern military specialist must possess not only military-professional knowledge but also digital literacy, the ability to work with information systems, analyze data, and make decisions in a rapidly changing information environment.

For NATO countries, digitalization carries additional significance owing to the need to ensure the interoperability of national training systems and the effective cooperation of servicemen from different states. Allied Command Transformation plays a central role in developing the Alliance's education and training system. At present, the corresponding network includes educational and training institutions, centers of excellence, and specialized courses that provide training for servicemen of NATO member and partner states [8].

The experience of the COVID-19 pandemic accelerated the introduction of distance learning in the military sphere. NATO has developed specific approaches to the advancement of distance education, the digital competencies of instructors, and the updating of curricula. Digital technologies are regarded here not as a replacement for the instructor, but as a means of increasing the effectiveness of the educational process.

Research Methodology. The study employed the systemic, comparative, and analytical approaches. The systemic approach made it possible to consider digitalization as a comprehensive change in the content and organization of military education. Comparative analysis was applied to identify the main trends of digital transformation in NATO countries, while the analytical approach made it possible to determine the impact of digital technologies on the quality of professional training.

Results. The analysis shows that the digitalization of military education in NATO countries is gradually moving from the simple use of electronic learning materials toward the creation of a comprehensive digital educational environment. This environment includes distance courses, virtual simulators, computer modeling, digital assessment systems, and artificial intelligence technologies. Such an environment makes the training process more flexible and provides servicemen with access to educational resources regardless of their place of service.

One of the most significant outcomes is the expansion of opportunities for practical training. Virtual and synthetic environments make it possible to model complex professional situations that are difficult or impossible to reproduce regularly under real conditions. Trainees are able to perform

training tasks repeatedly, analyze the results, and improve their actions. NATO's digital strategy attaches particular importance to modeling and synthetic environments for training, wargaming, and operational preparation.

The use of artificial intelligence is becoming an important direction. AI technologies create opportunities for adaptive learning, the analysis of training outcomes, the design of individualized tasks, and the provision of prompt feedback [2; 4; 5]. At the same time, servicemen are required to critically evaluate the results obtained with the help of intelligent systems. NATO regards the development of the corresponding digital competencies as an important component of preparing modern human capital.

Digitalization also contributes to the development of continuous education. A serviceman gains the opportunity to regularly update his knowledge and professional skills at various stages of his career. Thus, military education is gradually shifting from a model of training confined to a particular period toward a model of continuous professional development.

Discussion. The results of the study make it possible to conclude that digitalization is changing not only the technical side of military education but also the training model itself. The traditional system is gradually being supplemented with flexible educational trajectories, virtual practical tasks, and digital analytics. The role of the instructor is thereby preserved but becomes more complex: he acts not only as a source of knowledge but also as an organizer, consultant, and analyst of the educational process.

The development of scenario-based learning is especially important. In the digital environment, a serviceman can not merely reproduce theoretical material but apply knowledge to solve specific professional tasks. This fosters independence, critical thinking, and the ability to make decisions under changing conditions. Allied Command Transformation regards education, individual and collective training, and modeling as interrelated elements in building military readiness.

At the same time, digitalization has certain limitations. Modern digital infrastructure requires significant resources, and its effectiveness depends on the quality of educational content, instructor preparation, information security, and the interoperability of the systems used. Moreover, virtual training cannot completely replace real practice. The most rational approach is therefore a blended model that combines traditional instruction, digital educational resources, virtual modeling, and practical training.

Conclusion. Thus, the digitalization of military education in NATO countries is an important factor in improving the quality of military personnel training. Its content includes distance learning, virtual modeling, digital educational platforms, artificial intelligence, and educational analytics systems. The use of these technologies expands the possibilities for practical training, increases the accessibility of education, and promotes the individualization of professional instruction.

NATO's experience shows that successful digital transformation requires not only the introduction of modern technologies but also the updating of educational programs, the enhancement of instructors' digital competence, and the development of a system of continuous professional education. In the future, the further use of artificial intelligence and virtual and synthetic environments will contribute to the formation of a more flexible and adaptive system of military education. At the same time, digital technologies must complement rather than replace practical training, since it is precisely the combination of virtual modeling and real experience that ensures the comprehensive development of servicemen's professional competencies.

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