

ARTIFICIAL INTELLIGENCE AS A TOOL FOR INDIVIDUALIZING CADET TRAINING

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Abstract. The article examines the possibilities of applying artificial intelligence technologies to individualize the training process of cadets at military higher education institutions. Adaptive learning systems, intelligent training simulators, and academic performance analysis systems are analyzed, which make it possible to form an individual educational trajectory for each learner, taking into account his level of preparation and pace of mastering the material.

Keywords: artificial intelligence, individualization of learning, cadet, adaptive educational system, military education, intelligent training simulator.

The current stage of development of military education is characterized by a substantial increase in the volume and complexity of educational information that a cadet must master within a limited period of training. The traditional model of instruction, oriented toward the "average" learner, does not always make it possible to take into account individual perceptual characteristics, the pace of mastering material, and the initial level of preparation of each cadet. Under these conditions, the application of artificial intelligence technologies capable of ensuring the personalization of the educational process and increasing its effectiveness is becoming increasingly relevant.

Artificial intelligence in the military education system can be applied in several directions: adaptive learning platforms, intelligent analysis of academic performance data, and automated training-simulator complexes incorporating elements of machine learning. Adaptive platforms are able to analyze, in real time, a cadet's answers to test assignments and, on this basis, dynamically adjust the difficulty and sequence in which material is presented.

The use of intelligent training simulators is of particular importance in training artillery specialists. Such systems make it possible to model various tactical situations, automatically record a learner's errors in calculating fire-control tasks, and offer individual recommendations for correcting them. This substantially reduces the time required to practice skills and lessens the workload on instructional staff.

Big-data analysis systems for cadets' academic performance make it possible to identify individual gaps in knowledge at early stages of training, allowing the individual curriculum to be adjusted in a timely manner. In addition, such systems are able to predict the likelihood of successfully mastering subsequent topics on the basis of an analysis of previous results.

At the same time, the introduction of artificial intelligence into military education requires addressing a number of tasks: ensuring the information security of the systems used, developing methodological materials for teaching staff, and preserving the leading role of the educator in the upbringing process, which cannot be fully automated.

Examining foreign experience, it should be noted that the armed forces of a number of NATO countries, as well as of the Russian Federation, are actively introducing elements of artificial intelligence into combat-training systems. In particular, intelligent systems are used to analyze trainees' actions when working with combat-vehicle driving simulators and when practicing fire-control standards. Such systems form an individual competency profile for each serviceman, enabling command to make personnel decisions on a more informed basis and to plan the further training of personnel.

The question of applying natural language processing technologies and virtual assistants in the educational process deserves separate attention. Such systems are able to answer cadets' routine questions around the clock, help them prepare for tests, and automatically generate individual study plans based on an analysis of academic performance. The use of chatbots and intelligent reference systems makes it possible to partially relieve teaching staff of routine advisory functions, freeing up time for deeper methodological and educational work with learners.

Another important direction is the use of artificial intelligence to predict cadets' psycho-emotional state under conditions of elevated physical and psychological strain. Systems that analyze behavioral data, speech, and physiological indicators make it possible to detect signs of overexertion or stress at early stages, allowing the workload to be adjusted in a timely manner and preventing negative consequences for the health and professional development of the future officer.

The ethical aspect of introducing artificial intelligence into military education also requires separate consideration. The use of algorithms that make decisions regarding the assessment of a cadet's abilities or his further specialization must be accompanied by transparency of criteria and the possibility of appeal by the learner. In addition, it is necessary to ensure the protection of cadets' personal data collected by intelligent systems during the learning process, in accordance with the requirements of information-protection legislation.

On the basis of the analysis conducted, it appears advisable to: develop a pilot project for introducing an adaptive learning platform in one of the departments, with subsequent scaling of the positive experience; organize professional development courses for faculty on the application of intelligent learning technologies; establish a regulatory framework governing the collection, storage, and use of data on cadets' academic performance; and ensure the mandatory retention of pedagogical control over final decisions made with the use of artificial intelligence systems.

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