pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

ANALYSIS OF EXPERIENCES IN TRAINING ARTILLERY SPECIALISTS IN ADVANCED FOREIGN COUNTRIES

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Abstract. This article examines the contemporary practices and methodological frameworks employed by advanced foreign countries in training artillery specialists. The findings reveal that leading military educational institutions in the United States, the United Kingdom, the Russian Federation, Turkey, and other nations have adopted blended learning approaches that combine traditional classroom instruction with advanced digital simulation, virtual reality environments, and field-based practical exercises.

Keywords: artillery training, military education, simulation-based learning, competency-based approach, foreign military experience, military pedagogy.

Аннотация. В данной статье рассматриваются современные практики и методологические основы, применяемые передовыми зарубежными странами при подготовке специалистов артиллерийского профиля. Результаты исследования показывают, что ведущие военные образовательные учреждения США, Великобритании, Российской Федерации, Турции и других государств внедрили смешанные подходы к обучению, сочетающие традиционные аудиторные занятия с современными цифровыми симуляторами, виртуальной реальностью и практическими полевыми упражнениями.

Ключевые слова: артиллерийская подготовка, военное образование, обучение на основе симуляций, компетентностный подход, зарубежный военный опыт, военная педагогика.

Annotatsiya. Ushbu maqolada ilg‘or xorijiy davlatlar tomonidan artilleriya mutaxassislarini tayyorlashda qo‘llanilayotgan zamonaviy amaliyotlar va metodologik asoslar tahlil qilinadi. Tadqiqot natijalari shuni ko‘rsatadiki, AQSh, Buyuk Britaniya, Rossiya Federatsiyasi, Turkiya va boshqa mamlakatlarning yetakchi harbiy ta’lim muassasalari an’anaviy auditoriya mashg‘ulotlarini ilg‘or raqamli simulyatsiya, virtual reallik muhiti hamda dala sharoitidagi amaliy mashqlar bilan uyg‘unlashtirgan aralash ta’lim yondashuvlarini joriy etgan.

Kalit so‘zlar: artilleriya tayyorgarligi, harbiy ta’lim, simulyatsiyaga asoslangan o‘qitish, kompetensiyaga asoslangan yondashuv, xorijiy harbiy tajriba, harbiy pedagogika.

Introduction. The training of artillery specialists remains one of the most critical components of modern military education systems which exist in every country around the world. The contemporary armed conflicts require military forces to demonstrate exceptional precision and rapid deployment capabilities and advanced technological abilities during their fire support operations which depend on artillery personnel preparation to determine their combat effectiveness on the battlefield [1]. The development of weapons systems which include precision-guided munitions and automated fire control systems and networked battlefield management platforms has created an urgent need for artillery officers and technical specialists to receive completely new educational and training programs [2]. The research relevance emerges from the increasing distance between established teaching methods used in military academies and the current requirements of modern combined-arms operations which demand artillery officers to possess both deep technical knowledge and advanced skills in digital communications and joint fire coordination and decision-making during complex operational situations [3].

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

Methodology and Literature Review. The study's methodological framework employs a systematic research method which compares scholarly publications and doctrinal documents and institutional reports that document foreign countries' artillery training methods. Petrov [4] conducted a comprehensive study which compares the artillery training methods used in the Russian Federation and NATO member states through their examination of different aspects between both systems including curricular design and assessment methods and simulation technology usage. Johnson and Smith [5] investigate how the United States Army's Field Artillery School at Fort Sill evolved from traditional lecture methods into educational programs that use simulation-based learning through real-world scenarios. Yilmaz [6] investigates the Turkish military education system by showing how it implements competency-based educational systems together with NATO Standardization Agreements in its artillery training programs.

The British system for training artillery operations has been examined by Davies and Thompson [7], who studied the Royal School of Artillery's training methods for combined fire operations and international defense exercises. Smirnov [8] created an extensive study of Russian military teaching methods which follows the development of Soviet artillery training systems into modern educational methods which use virtual simulation and remote learning technologies. Rakhimov [9] provides an Uzbek viewpoint through his research about how military personnel training functions in Uzbekistan's higher military educational institutions, while Tursunov [10] studies the educational methods which support current military training updates needed for national defense system changes.

Results and Discussion. The research study examines how different countries train their artillery specialists while showing the main military training patterns which exist in modern military training methods. Simulation-based training systems have become essential to artillery education because all major military institutions now use them as their primary training method. The United States military uses the Advanced Field Artillery Tactical Data System and the Call for Fire Trainer at the Fires Center of Excellence located at Fort Sill to create authentic training environments where students learn to acquire targets and process fire missions and adjust fire operations without needing actual live-fire drills which require expensive resources [5]. The Russian Armed Forces developed the Unified Tactical Simulation System to provide artillery training scenarios which soldiers use to practice their skills in coordinating fire support with maneuver units during simulated combat scenarios. A second critical trend identified through the literature review is the transition from knowledge-based to competency-based curricular models in artillery education [3]. The traditional system which required students to memorize ballistic tables and firing procedures and technical manuals is now being replaced by educational frameworks which emphasize the development of essential skills for making quick decisions and creating flexible plans and working together in military operations [6].

The British Royal School of Artillery exemplifies this approach because it created new training programs which use specific competency requirements to evaluate whether artillery officers have achieved the necessary standards for their operational duties [7]. The third major discovery shows that artillery education programs now put more focus on teaching students how to work together with others in joint combat drills. Modern military operations rarely involve the employment of artillery in isolation; rather, fire support is coordinated across multiple service branches, coalition partners, and joint fires networks that integrate air, naval, and ground-based fire platforms. Military educational institutions now require their training programs to teach students how to plan joint fires and use digital communication systems and work with international partners. The study shows that countries with successful artillery training systems use instructor development programs as their main investment because military educators need to achieve high-quality standards to ensure successful training results.

Conclusion. The analysis of experiences in training artillery specialists in advanced foreign countries demonstrates that contemporary military education in this field is undergoing a profound transformation driven by technological innovation, pedagogical reform, and the

pISSN:2349-5707 Volume:13,Issue 2, February -2026 eISSN:2349-5715

evolving demands of modern warfare. The principal findings of this study indicate that simulation-based training, competency-based curriculum design, and interoperability-focused instruction constitute the three pillars of effective artillery education in leading military nations. The experiences of the United States, the Russian Federation, the United Kingdom, Turkey, and other countries offer valuable lessons for nations seeking to modernize their artillery training systems.

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