

New Approaches in Military Personnel Training: a Pedagogical Evaluation of Teaching Methods

Нові підходи до підготовки військових кадрів: педагогічна оцінка методів навчання

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Purpose. The purpose is to scientifically analyze and evaluate the pedagogical effectiveness of new teaching methods applied in modern military personnel training.

Method. A comparison has been made between various pedagogical approaches, international military education practices, and the methods applied within the Azerbaijani military education system, and their effectiveness has been evaluated from both theoretical and practical perspectives.

Theoretical implications. The research revealed that the integration of modern teaching methods into military education significantly contributes to enhancing pedagogical quality in officer training. Problem-based learning, simulation, and interactive methods strengthen cadets' analytical thinking, decision-making, and leadership skills. The systematic and continuous application of these approaches can ensure the development of the Azerbaijani military education system in alignment with international standards.

Practical implications. The implementation of problem-based learning models in military education institutions enables cadets to prepare for real combat scenarios. The use of simulation and technological training tools facilitates the practical development of decision-making, coordination, and operational planning skills. Organizing professional development programs for instructors on interactive teaching methods enhances the overall effectiveness of instruction. Integrating subjects that develop leadership and socio-emotional competencies into curricula strengthens cadets' ability to work in teams and improves their psychological resilience. Reinforcing a student-centered approach within the teaching process increases cadet motivation and active engagement in learning.

Value. This article provides a scientific justification for the application of pedagogical innovations in the modern military education system and analyzes the practical impact of new teaching methods, identifying realistic and purposeful directions for aligning the development of Azerbaijan's military education with international best practices.

Paper type. Empirical.

Мета дослідження. Проаналізувати та оцінити педагогічну ефективність нових методів навчання, що застосовуються в сучасній підготовці військовослужбовців.

Метод дослідження: Зроблено порівняння між різними педагогічними підходами, міжнародними практиками військової освіти та методами, що застосовуються в азербайджанській системі військової освіти, та оцінено їх ефективність з теоретичної та практичної точок зору.

Теоретична цінність дослідження. Дослідження показало, що інтеграція сучасних методів навчання у військову освіту значно сприяє підвищенню педагогічної якості підготовки офіцерів. Проблемно-орієнтоване навчання, моделювання та інтерактивні методи зміцнюють аналітичне мислення, навички прийняття рішень та лідерські якості курсантів. Систематичне та безперервне застосування цих підходів може забезпечити розвиток азербайджанської системи військової освіти у відповідності до міжнародних стандартів.

Практична цінність дослідження. Впровадження моделей проблемно-орієнтованого навчання у військових навчальних закладах дозволяє курсантам готуватися до реальних бойових сценаріїв. Використання моделювання та технологічних навчальних інструментів сприяє практичному розвитку навичок прийняття рішень, координації та оперативного планування. Організація програм підвищення кваліфікації для викладачів з інтерактивних методів навчання підвищує загальну ефективність навчання. Інтеграція предметів, що розвивають лідерські та соціально-емоційні компетенції, в навчальні програми зміцнює здатність курсантів працювати в командах та покращує їх психологічну стійкість. Посилення орієнтованого на студента підходу в навчальному процесі підвищує мотивацію курсантів та активну залученість до навчання.

Цінність дослідження. Ця стаття надає наукове обґрунтування застосування педагогічних інновацій у сучасній системі військової освіти та аналізує практичний вплив нових методів навчання, визначаючи реалістичні та цілеспрямовані напрями узгодження розвитку військової освіти Азербайджану з міжнародними найкращими практиками.

Тип статті. Емпірична.

Key words: military education, pedagogical approaches, problem-based learning, simulation, interactive methods.

Ключові слова: військова освіта, педагогічні підходи, проблемно-орієнтоване навчання, моделювання, інтерактивні методи.

Introduction

The changing geopolitical realities and technological advancements of the 21st century have introduced new demands for modern military education. Contemporary warfare is no longer confined to physical battlefields; it now spans information, psychological, and technological domains. Under such conditions, the training of military personnel must go beyond technical and

tactical knowledge and focus on developing analytical thinking, agile decision-making, leadership, and communication skills. This necessitates a fundamental transformation of the instructional process from both pedagogical and methodological perspectives, requiring the integration of new training technologies and modern learning models into military education.

In Azerbaijan, as part of ongoing military reform initiatives, the modernization of military education in terms of both content and structure has become a key national priority. Officers must be equipped not only with technical competence but also with moral, intellectual, and social preparedness, which is of strategic importance for national security. Therefore, the selection of teaching methods based on scientific evidence and their pedagogical evaluation is a highly relevant issue in military personnel training.

The aim of this article is to analyze the new pedagogical approaches and instructional methods used in military education and to assess their impact on the professional, psychological, and leadership development of cadets. Drawing on international experience, practical case studies, and relevant pedagogical theories, the study systematically investigates the effectiveness of problem-based learning, simulation, social-emotional learning, and interactive teaching methods.

The significance of this research also stems from the limited number of scientific studies in this field within Azerbaijan and the lack of systematic analysis regarding the practical implementation of pedagogical approaches. The findings and recommendations presented in this article may serve as a practical foundation for improving the quality of instruction within the military education system and for the effective application of new teaching methodologies in officer training.

Theoretical background

Pedagogical approaches applied in the modern military education system are based on constructivist, interactive, and practice-oriented learning models. Traditional lecture-based instruction is gradually being replaced by problem-based learning, simulation, and group-centered activities. These approaches foster the development of analytical thinking, agile decision-making, and leadership skills among cadets. From a pedagogical perspective, the primary objective is to train military personnel not only as knowledgeable individuals but also as professionals equipped with practical competencies and a high level of moral and motivational readiness.

Problem Statement

In the modern era, the dynamic and complex nature of military operations demonstrates that traditional instructional formats alone are no longer sufficient for officer training. The global security environment, rapid technological advancement, and the proliferation of hybrid warfare forms necessitate the adoption of flexible, practice-oriented, and interactive teaching methods in military education. However, in many cases, outdated lecture-based approaches still dominate the instructional process, which limits cadets' ability to adapt to real combat conditions and make effective decisions. Moreover, the lack of systematic pedagogical evaluation of the implementation of new teaching methods creates challenges in measuring their effectiveness and ensuring sustainable development in this area. Therefore, the scientific and pedagogical analysis of modern instructional methods applied in military training, as well as the assessment of their practical impact, constitutes a timely and significant research problem.

Results

Problem-Based Learning (PBL) and the Military Environment

Problem-Based Learning is one of the core active learning methods in modern pedagogy and has increasingly been adopted in military education in recent years. The central principle of this approach is that cadets confront real or simulated problems and acquire knowledge through self-

directed learning and collaborative problem-solving within group settings. In the military context, this approach fosters not only theoretical knowledge but also the development of situational decision-making, analytical thinking, and leadership skills.

During the implementation of the PBL method, cadets work through scenarios that closely resemble real combat situations. They analyze the core aspects of a given problem using various sources of information and seek strategic solutions. This process supports the formation of critical thinking and operational decision-making skills, while also promoting essential qualities such as teamwork, responsibility, and adaptability to changing environments [1, pp. 235].

The application of PBL in military education is especially widespread in NATO countries' military academies. Research shows that cadets trained through PBL demonstrate higher levels of motivation, retain learned material for longer periods, and respond more flexibly in practical situations [2, pp. 732-741]. The NATO Defence Education Enhancement Programme (DEEP) has also recommended the integration of PBL as a key innovation in modern officer education [3].

Overall, the PBL approach facilitates a shift from passive learning models to active, application-oriented learning within military education. This approach is particularly valuable in preparing officers who are capable of demonstrating leadership, rapid adaptation, and analytical reasoning in situations of conflict and crisis.

Simulation Technologies and Leadership Training in Military Education

The application of simulation technologies in modern military education significantly enhances the practicality and effectiveness of the instructional process. Simulation-based training enables cadets to develop decision-making and operational planning skills in environments that closely resemble real combat situations, yet remain safe and controlled. Through command staff simulations, virtual wargaming, and tactical simulators, cadets engage in strategic decision-making, resource allocation, and scenario analysis [4].

Simulations are particularly valuable for developing military leadership skills. Leadership in military contexts goes beyond issuing orders—it involves situational analysis, motivating subordinates, and assessing risks. Simulation environments allow cadets to practice and refine these competencies in realistic conditions. Research indicates that cadets participating in simulation-based training demonstrate higher levels of strategic thinking, psychological resilience, and decision-making under stress [5, pp. 197].

In addition, leadership training and elements of social-emotional learning (SEL) are increasingly integrated into modern military education programs. Developing soft skills such as self-regulation, empathy, effective communication within teams, and conflict resolution is as vital as technical proficiency on the battlefield. Daniel Goleman's theory of social intelligence provides a foundational theoretical framework in this area, emphasizing the direct relationship between emotional intelligence and effective leadership [6].

Therefore, leadership training complemented by simulation technologies equips officers not only with technical expertise but also with the psychological, decision-making, and interpersonal skills required for complex military operations. This holistic approach is now considered a core requirement of modern military models.

Interactive Teaching Methods and Pedagogical Effectiveness in Military Training

In modern pedagogy, interactive teaching methods emphasize the active involvement of learners in the educational process. This approach is particularly relevant and necessary in military education, where officer training requires not only the acquisition of knowledge but also its practical application, discussion, and analysis. Traditional lecture-based and passive listening methods no longer meet the demands of dynamic and complex military operations. Instead, methods such as simulation, debate, role play, case studies, group tasks, and game-based learning have demonstrated greater pedagogical effectiveness [7].

Interactive methods enhance cadets' critical thinking, analytical reasoning, collaboration, communication, and problem-solving skills. In particular, group-based tasks play a vital role in fostering values essential to the military context, such as team spirit, mutual trust, and collective responsibility. Role-playing and tactical simulation activities allow officers to experiment with different behavioral models in various scenarios, evaluate alternative decision paths, and learn from their mistakes [8].

Studies have shown that interactive learning environments significantly increase student engagement and positively influence learning outcomes. For instance, research by Prince (2004) demonstrated that students in active learning settings achieved higher retention and understanding compared to those in traditional classrooms. Similar outcomes have been observed in pilot studies conducted within military education institutions [3].

There is a growing tendency to implement interactive methods in Azerbaijan's military education system. In recent years, pedagogical training sessions and curriculum reforms have included workshops on the application of these methods for teaching staff. Standard instructional models now include "decision-making under pressure" simulations, group-based tactical planning exercises, and open discussion sessions, especially in institutions like the Military Academy and the Higher Military School [9].

However, the successful application of interactive methods requires several foundational conditions: adequate pedagogical training for instructors, availability of teaching resources, alignment of cadets with the methodology, and properly structured assessment mechanisms. If these components are systematically ensured, the pedagogical effectiveness of interactive methods in military education can be significantly enhanced, contributing to the development of not only professional competence but also social and emotional skills among cadets.

Implementation Experience and Challenges in Azerbaijan

In recent years, the modernization of Azerbaijan's military education system has become one of the key components of broader reforms in defense sector development. Following the 44-day Patriotic War, improving the quality of military personnel training and integrating modern instructional methods were identified as national priorities. Within this framework, the Ministry of Defense of the Republic of Azerbaijan and other relevant institutions have initiated curriculum reforms, pedagogical training programs, and the implementation of simulation-based learning models in higher military institutions [9].

One of the modern instructional methods introduced in Azerbaijan is PBL and interactive training sessions. At the Azerbaijan Higher Military School and Military Academy, cadets participate in sessions based on real or simulated scenarios, where they develop skills such as decision-making, leadership, coordination, and operational analysis. Courses such as "tactical situation analysis", "team-based decision-making", "leadership tasks" and "behavior under dangerous conditions" have been introduced. Additionally, virtual battle simulators have been deployed, and some courses are being offered in distance or hybrid formats as part of pilot initiatives.

As part of instructor professional development, cooperation has been established with NATO's Defence Education Enhancement Programme (DEEP), providing Azerbaijani military educators with training in modern teaching methodology and instructional technologies [3]. These programs have played a critical role in aligning Azerbaijan's military education institutions with international standards and promoting methodological modernization.

However, several challenges persist in the large-scale implementation of modern teaching methods in Azerbaijan:

1. Lack of methodological readiness: Many instructors and officers are accustomed to traditional lecture-based systems, which hinders the transition to interactive and problem-based approaches. Continuous pedagogical training and methodological workshops are necessary for effective implementation [10].

2. Limited teaching resources: In some higher military schools, the absence of simulation technologies and instructional equipment restricts the broad application of these methods. Strengthening technological infrastructure and developing virtual training laboratories are essential steps in this area.

3. Weak assessment mechanisms: Appropriate evaluation tools and performance indicators for assessing learning outcomes in line with new instructional methods have yet to be fully developed. Traditional testing and oral examinations do not adequately reflect the effectiveness of innovative teaching practices.

4. Lack of pedagogical research: There is a notable shortage of systematic studies and empirical research on the outcomes of instructional methods used in military education in Azerbaijan. This hampers the objective evaluation and improvement of new approaches.

Despite these challenges, ongoing educational reforms and internationally supported initiatives provide a foundation for the development of a more flexible, modern, and pedagogically sound military education system in the near future. The expanded application of interactive methods that enhance cadets' practical skills and strategic thinking abilities may mark a qualitative shift in officer training in Azerbaijan.

Recommendations and Development Perspectives

While the steps taken toward the modernization of military education in Azerbaijan have yielded significant results, achieving greater effectiveness and alignment with international standards requires a comprehensive and integrated approach. Based on existing practices and challenges, the following recommendations and development directions may be considered:

1. Systematic professional development for pedagogical staff: The effective implementation of modern instructional methods depends on the pedagogical and methodological readiness of teaching personnel. Long-term training and certification programs should be organized in collaboration with international initiatives such as NATO DEEP, TIKa, and others. Teachers' methodological skills must be regularly updated to align with evolving educational standards [3].

2. Expansion of simulation and digital training technologies: To enhance the practical dimension of military training, military educational institutions should be equipped with advanced simulation platforms, virtual laboratories, and interactive classrooms. This infrastructure will also support remote learning opportunities and ensure operational flexibility in emergency situations [11].

3. Implementation of assessment and outcome-based learning models: In order to measure the effectiveness of new teaching methods, outcome-based learning (OBL) approaches should be applied. Rubrics, performance-based assessments, and practical tasks should be developed to evaluate not only knowledge but also skills and behavioral competencies of cadets [12].

4. Mutual integration of civilian and military pedagogy: Military higher education institutions should cooperate with pedagogical faculties of civilian universities to organize joint seminars, research initiatives, and experience-sharing programs. Such collaboration can facilitate the flexible and effective integration of educational innovations into military training.

5. Strengthening the scientific research base: Systematic studies should be conducted to analyze the pedagogical and psychological effects of military training methods. The scientific activity of military educators should be encouraged, and military research institutions and academies should evaluate pilot applications of new instructional methods and publish their findings in academic journals.

6. Productive international cooperation and regional knowledge exchange: Comparative studies should be carried out with military education models in countries such as Türkiye, Kazakhstan, and Ukraine, and best practices should be adapted and localized accordingly. In particular, collaboration with Türkiye's National Defence University can offer practical examples and valuable perspectives for implementation.

The overarching goal of these recommendations is to enhance the quality of instruction within Azerbaijan's military education system, ensure the systematic implementation of modern

teaching approaches, and prepare professional officers equipped with strong leadership capabilities. These reforms should be viewed not only as an element of higher education policy but also as an integral part of the country's national security strategy.

Conclusion

The conducted research has revealed that the application of modern pedagogical approaches in military officer training—particularly PBL, simulation technologies, interactive methods, and social-emotional learning strategies—plays a critical role in enhancing cadets' professional competence and fostering leadership and strategic thinking skills. Traditional lecture-based methods are no longer sufficiently effective in the context of contemporary warfare and security challenges, making the transition to practice-oriented and applied learning models a necessity.

The international experience analyzed in the study demonstrates that in NATO member states and other advanced military education systems, interactive and learner-centered teaching models have become standard, emphasizing realistic operational training for future officers. The adaptation of these models to Azerbaijan's context and their integration into the local military education environment constitutes an essential part of ongoing educational reforms.

According to the research findings, although there has been progress in implementing modern instructional methods in Azerbaijan, several challenges persist—including uneven levels of methodological preparedness, limited access to simulation technologies, a lack of pedagogical research, and underdeveloped assessment mechanisms. These factors continue to hinder the full and effective realization of innovative training processes.

Nevertheless, with systematic pedagogical advancement, expanded international collaboration, and increased utilization of digital resources, Azerbaijan's military education system has the potential to evolve into a flexible, high-tech, and leadership-oriented model of officer preparation. Such an approach will not only enhance the capabilities of the armed forces but also contribute significantly to strengthening national security and strategic management capacity.

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Competing interests

The authors declare that they have no competing interests.

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