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NEW STRATEGIES FOR IMPROVING PHYSICAL AND COMBAT TRAINING OF ARMED FORCES PERSONNEL

Abdimutalov Shokhruhjon Shukhratjon ogli
Lecturer, Department of Physical Training and Sports,
Military Security and Defense University of the Republic of Uzbekistan

Abstract

The article analyzes modern strategies for improving the physical and combat training of Armed Forces personnel. The relevance of the study is determined by hybrid threats, technological changes, and new requirements imposed on military training by the experience of modern combat operations. The purpose of the article is to substantiate strategic directions for integrating physical and combat training and to develop recommendations for their implementation in Armed Forces practice. As a result of the analysis, six strategic directions were substantiated: introduction of digital-simulation technologies, integral integration of physical and combat training, targeted formation of psychophysiological resilience, individualized and adaptive training, adaptation to hybrid threats, and harmonization of national traditions with advanced foreign experience. Practical recommendations were provided for each direction.

Keywords: Armed Forces, physical training, combat training, digital simulation, virtual reality, artificial intelligence, psychophysiological resilience, individualized training, hybrid threats, strategy.

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Introduction

The physical and combat training of Armed Forces personnel is the foundation of any state's defense capability. As emphasized in Resolution No. PQ-40 of the President of the Republic of Uzbekistan dated December 10, 2021, in the context of globalization, military threats to national security arising from the military-political situation in the world and the region require military personnel to have high combat readiness, strong will, and physical perfection. The worthy protection of state sovereignty and territorial integrity directly depends on the high level of physical training of military personnel [1].

In recent years, the nature of combat operations has changed significantly. Hybrid wars, unmanned aerial vehicles, cyber threats, and information influence tools have transformed traditional perceptions of the battlefield. At the same time, a soldier's physical training, endurance, and volitional stability have never lost their importance—on the contrary, in new conditions they have been enriched with more complex and multifaceted requirements. Training sessions conducted by the Ministry of Defense are organized in conditions close to real combat, where not only physical but also mental training is tested.

In existing practice, physical and combat training are often considered as separate directions. However, modern experience shows that their effectiveness is high precisely when they are integrated, complement each other, and are built as a unified system. Therefore, the systematic substantiation of new strategies for improving physical and combat training is becoming an urgent scientific and practical issue [2].

The purpose of the article is to substantiate strategic directions for improving the physical and combat training of Armed Forces personnel and to develop recommendations for their implementation in practice.

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New Requirements for Physical and Combat Training

In modern conditions, the requirements for the physical and combat training of military personnel have fundamentally changed under the influence of several factors.

The first factor is the hybridization of combat operations. Along with traditional combat operations, cyber attacks, information-psychological operations, unmanned aerial vehicles, and electronic warfare means are being used. This requires military personnel to possess not only physical strength but also the ability to make prompt decisions, operate technical means, and act under conditions of uncertainty. In Ministry of Defense training sessions, special attention is paid to the effective use of modern weapons and technical means, making quick and correct decisions in unexpected situations, and strengthening collective cooperation.

The second factor is the change in physical loads. Modern combat activity simultaneously requires prolonged operational waiting, high mobility, and extreme physical loads. A military serviceman must develop endurance and strength on the one hand, and fine motor coordination and reaction speed on the other. This necessitates that training be not traditionally linear but multi-component [3].

The third factor is the growing importance of psychophysiological resilience. The ability to act stably under combat stress, fatigue, information pressure, and time constraints is closely linked to physical training. Studies identify strength, endurance, agility, combat-technical skills, and mechanisms for enhancing psychophysiological resilience in extreme situations as the main components of physical and combat training.

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The fourth factor is technological transformation. Digital polygons, simulators, virtual reality (VR), artificial intelligence, and gamification are becoming an integral part of military training. In Uzbekistan as well, military personnel are now trained not only in accuracy and strength but also in drone operation, working with digital maps, artificial intelligence, and combat action simulators.

Main Directions of New Strategies

Taking into account the above factors, the following six strategic directions for improving physical and combat training have been substantiated.

The first direction is the introduction of digital-simulation technologies. The most prominent direction of modern training is the use of digital and simulation technologies. The Ministry of Defense of Uzbekistan is creating new digital polygons where combat action simulators, drone operation, and work with digital maps are practiced. International studies confirm the effectiveness of VR training: a report by the Swedish Defence Research Agency (FOI) shows that cadets exhibited similar physiological activity in virtual and real environments, indicating that VR training can create a stress level similar to real operational conditions. Furthermore, police officers trained with VR demonstrated faster recovery after stress and better navigation ability. Generative artificial intelligence enables the creation of various training scenarios and the development of educational videos in a realistic environment [4].

The second direction is the integral integration of physical and combat training. Physical training is not effective in isolation from combat skills. The new strategy requires directly linking physical exercises with combat tasks. In Ministry of Defense training sessions, physical training is combined with real combat actions—moving inside buildings, identifying targets, firing in confined

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spaces. At the Special Operations Forces polygon, a 250-meter obstacle course must be completed by a group in 7–8.5 minutes, which develops not only physical endurance but also collective mutual assistance.

The third direction is the targeted formation of psychophysiological resilience. An important component of combat training is the ability to act stably under stress. VR and simulation technologies enable practicing this in a controlled environment. FOI research notes that VR provides systematic stress induction, reduces requirements for physical space, and enables objective measurement. These features create favorable conditions for the targeted formation of psychophysiological resilience.

The fourth direction is individualized and adaptive training. Not all military personnel have the same physical capabilities. The new strategy envisages assessing the individual level of training and selecting an appropriate load. VR systems enable real-time monitoring of physiological parameters and personalized adjustment based on artificial intelligence. This approach increases training effectiveness and reduces the risk of injury [5].

The fifth direction is adaptation to hybrid threats. Modern threats expand the scope of physical training. A military serviceman must possess skills in drone operation, working with digital maps, knowledge of cybersecurity fundamentals, and acting under electronic warfare conditions. Incorporating these components into the training process ensures that training meets modern requirements [6].

The sixth direction is harmonization of national traditions with advanced foreign experience. The Armed Forces of Uzbekistan have national initiatives such as the "Brave Warrior" distinction badge, aimed at subjecting military personnel to intensive tests and determining their physical and mental endurance.

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At the same time, international experience—VR/AI technologies, LVC (live-virtual-constructive) training, and adaptive simulations—should be applied in a manner adapted to local conditions (Table 1).

Table 1. Strategic directions for improving physical and combat training

Strategic direction	Main content	Practical tools	Expected outcome
Digital-simulation technologies	VR, AI, digital polygons, simulators	VR trainers, generative AI scenarios, drone simulators	training close to reality in a safe environment
Physical-combat integration	linking exercises with combat tasks	obstacle course, indoor movement, team exercises	consolidation of practical skills
Psychophysiological resilience	stable action under stress	VR stress simulation, physiological monitoring	readiness for extreme conditions
Individual-adaptive training	load matching individual level	AI-based adaptation, real-time monitoring	increased effectiveness, reduced injury
Adaptation to hybrid threats	drone, cyber, EW components	drone operation, digital maps, cybersecurity	multifaceted training
Harmonization of national and foreign experience	adapting best practices	"Brave Warrior", LVC, international courses	systematic and forward-looking development

Practical Recommendations

Based on the analysis results, the following practical recommendations are put forward.

1. Expand digital polygons and simulation centers. Summarizing the experience of existing digital polygons, it is necessary to gradually introduce VR/AI-based training complexes in military districts and training centers. Special attention should be paid to the ability to simulate various terrain and climatic conditions [7].

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2. Link physical training standards with combat tasks. It is advisable to revise existing physical training standards and directly link them to actions required in real combat operations—carrying loads, overcoming obstacles, moving over long distances.

3. Establish a psychophysiological monitoring system. Introduce a system for real-time monitoring of physiological indicators and stress levels of military personnel during training. This will enable adjustment of individual loads and prevention of fatigue.

4. Enhance the digital competence of instructors. Organize special advanced training courses for instructors on working with VR/AI technologies, managing simulation scenarios, and analyzing digital diagnostic results.

5. Enrich the "Brave Warrior" system with digital assessment. Assess intensive tests not only by physical indicators but also by psychophysiological resilience, decision-making speed, and behavioral indicators under stress.

6. Strengthen international experience exchange. Study advanced foreign experience in VR/AI-based training, organize joint training courses and scientific-practical conferences.

Conclusion

New strategies for improving the physical and combat training of Armed Forces personnel are an integral result of modern threats and technological capabilities. The analysis substantiated six strategic directions: introduction of digital-simulation technologies, integral integration of physical and combat training, targeted formation of psychophysiological resilience, individualized and adaptive

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training, adaptation to hybrid threats, and harmonization of national traditions with advanced foreign experience.

The unity of these directions enables raising military training to a qualitatively new level: physical training is integrally linked with combat skills, psychophysiological resilience is purposefully formed, technologies increase training effectiveness, and an individual approach fully utilizes each serviceman's capabilities. In this way, Armed Forces personnel will be raised to a level capable of adequately responding to all challenges of modern combat operations.

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