*Yandola Krystyna*
*senior teacher of the Department*
*of Psychology and Pedagogy,*
*Ivan Kozhedub Kharkiv National Air Force University,*
*Kharkiv, Ukraine*

# GAMIFICATION IN HIGHER MILITARY EDUCATION: CHALLENGES AND OPPORTUNITIES

The urgency of improving the educational process in the higher military school is undoubtedly important for modern Ukrainian society in view of the modern challenges facing the Armed Forces. On the one hand, the rapid development of technologies, the variability of the operational and tactical situation on the battlefield place increased demands on the professional training of officers, and therefore require the constant search for new effective training methods. On the other hand, globalization and the development of technologies require education in general to be more interactive, interesting and effective. Traditional teaching methods are gradually giving way to innovative approaches, one of which is gamification.

Gamification is the process of introducing game elements and mechanics into non-game contexts, in particular, into education. It allows teachers to make learning more exciting and motivating, increase the involvement of education seeker and improve their results.

Gamification can be implemented in different ways, but thanks to the development of information and computer technologies and the digitalization of the educational process, it acquires new forms and opportunities.

The improvement of the educational process thanks to gamification was studied by such scientists as M. Imeridze, I. Bykov, D. Velichko, V. Bykhovets, O. Kochkurova, Ye. Novikova, O. Pasichnyk, N. Sayenko etc. The implementation of gamification in institutions of higher military education is the focus of research by O. Brodyak, N. Guzik, N. Lishchynska, O. Petruchenko, I. Pinchuk, O. Tereshchuk etc.

Despite the sufficient study of the issue of gamification of the educational process, we still observe a number of contradictions, namely: too much involvement in the virtual world can lead to a decrease in motivation for real training, using the commercial games and platforms can violate copyright, gamification cannot completely replace real training etc.

The purpose of the article is to analyze the opportunities and challenges of gamification of the educational environment of higher military education institutions in modern conditions.

Military education traditionally associated with discipline and strict rules, can greatly benefit from using the gamification. We believe that gamification should be considered from the point of view of the formation of both hard-skills and soft-skills.

Among the positive examples of gamification currently implemented in military education, the following should be noted:

- realistic combat simulators that allow future soldiers to practice various tactical tasks in a safe environment;

- organization of competitions for military training, for example, overcoming an obstacle course, shooting, providing first aid;

- creation of scenarios in which cadets perform various roles (commander, private, medic etc.) and solve tactical tasks;

- development of mobile applications for studying military history, tactics, technology etc.

Examples include: a mobile application for After Action Reaction [1], the use of gamification elements in the study of modern field information and communication nodes of control points within the framework of tactical and special disciplines [2], Steel Beasts Pro - a simulator for training military planning and management in combat conditions [4], Virtual Reality simulators, including for diagnosis and rehabilitation of mental states. VR technologies can train military in various tasks, such as reconnaissance, explosive device disposal, medical assistance etc [3].

To the attention of scientific and pedagogical workers, today there are many platforms and programs that allow gamification in the educational process during various forms of work: consolidation of knowledge, testing, acquisition of practical skills, role-playing games and quests etc. These include Kahoot!, Quizizz, Mentimeter, Unity, Articulate Storyline and so on. It should be noted that the flexibility of information and computer technologies and the intensification of the digitization process are constantly updating this list.

The mentioned examples, most likely, describe hard-skills. However, performing such tasks, cadets form and develop soft-skills.

So, for example, the introduction of a system of points (so-called leaderboards) for completing tasks and obtaining ranks motivates cadets to achieve better results and develop leadership qualities. Many game tasks require teamwork, which promotes the development of skills of interaction, cooperation, communication and the formation of trust, which are important for the completion of tasks as intended, and are the basis for understanding the value of cohesion and coherence. In teamwork, the division of roles is also important and each team member fulfills his role, which teaches to understand the importance of each member. In the course of the game, conflict situations may arise, which must also be solved together.

The special role of gamification in the development of critical thinking, because games often require the analysis of a large amount of information in order to make the right decisions. When solving cases, players are constantly faced with real problems that need to be solved using logic and analytical skills. Also a number of games require players to plan their actions several steps ahead, foresee the possible consequences of their decisions and also develop strategic thinking.

Gamification is great for developing creativity, which is also a top skill for today's military personnel. Games often require players to look for non-standard solutions, to go beyond patterns and create something new. The gameplay encourages experimentation, allows you to make mistakes and learn from your mistakes. Many games are built on creating your own worlds, characters and stories, which develops imagination and fantasy.

Being in various gamified situations definitely creates new opportunities: to create individual learning trajectories for each cadet, to increase the degree of involvement of each cadet in the educational process, gamification opens up new opportunities for using modern technologies in education.

However, it is necessary to take in consideration certain difficulties. Thus, the development of high-quality games and simulators requires significant financial resources. In addition, scientific and pedagogical workers should be ready to use new teaching methods with elements of gamification. It should also be understood that too many game elements can distract cadets from the main educational material.

We would like to pay special attention to the ethical dilemmas that arise when using gamification.

Thus, games can contribute to the formation of a dehumanized image of the enemy, which can lead to a decrease in moral barriers and an increase in brutality during real combat operations. This is especially relevant in the conditions of the Russian-Ukrainian war, where the aggressor country constantly demonstrates a cruel attitude towards Ukrainian prisoners of war and the civilian population, and posts content marked "18+" in the media space. Games that encourage violence can contribute to the formation of aggressive behavior patterns in military personnel.

Another problem is the high probability of psychological pressure. Constant presence in a competitive gaming environment can lead to the development of addiction, increased anxiety and other psychological problems. This is also a significant factor today, when psychologists state a high level of PTSD in both the military and society in general.

Also, games can be used to manipulate the consciousness of military personnel, to form desired beliefs and values in them.

It is also worth understanding that too much dependence on game technologies can lead to a decrease in other skills necessary for successful military service, as well as the appearance of a feeling of invincibility, an exhortationto unjustified heroism. Constant interaction with virtual opponents can lead to a decrease in empathy and understanding of the consequences of one's actions.

These dilemmas exacerbate the question of who is responsible for the consequences of using the games in military training, if they lead to negative effects?

We believe that reducing potential risks and obtaining benefits from gamification is possible due to the creation of appropriate psychological and pedagogical conditions and the correct approach to the development or selection of ready-made games.

Among the psychological and pedagogical conditions, we would like to note the fallows:

1. Strict content control. All games used in military training must be carefully scrutinized for compliance with ethical standards.

2. Balance between the virtual and real world. It is necessary to emphasize the difference between the virtual and the real world, as well as emphasize the importance of observing moral principles in real combat situations.

3. Psychological support. Military personnel participating in game training should have access to psychological assistance.

4. Transparency and openness: The discussion of ethical aspects of gamification in the military sphere should be open and transparent.

Thus, gamification can become a powerful tool for the modernization of military education. It allows you to make learning more effective, interesting and interactive. However, for the successful implementation of gamification, it is necessary to take into account the specifics of military education and to solve the challenges associated with its implementation, it is necessary to carefully weigh all risks and develop effective control mechanisms.

## Referances

1. Boiko O.  Instrument viiskovykh lideriv, shcho efektyvno vbyvaie «sovok» i myttieva peredaie dosvid [A tool of military leaders that effectively kills the "scoop" and instantly transfers experience] *HO Viskove liderstvo* URL: https://enigma.ua/articles/instrument-viysbkovikh-lideriv-shcho-efektivno-vbivae-sovok-i-mittevo-peredae-dosvid(date of application 26.08.2024) (in Ukrainian).

2. Kozubtsov I., Filipov V., Pushtaryk O. (2023) Kontseptsiia navchalno-trenuvalnogo komplesu pidhotovky viiskovukh fakhivtsiv na kafedri boiovoho zastosuvannia pidrozdiliv zviazku na zasadakh kompiuternoi hry [The concept of the educational and training complex for the training of military specialistst at the department  of combat application of communication units based on a conputer game]. *Perspektyvy ta innovatsii nauky*. № 10(28). P. 232-245 (in Ukrainian).

3. Shkalova A. Vid aviasymuliatoriv do rekrutynhu. Yak AR/VR vykorystovuiut u pidhotovtsi viiskovykh [From flight simulators to recruiting. How AR/VR is used in military training]. *Vector.* URL: https://vctr.media/ua/vid-pidgotovki-pilotiv-do-rekrutingu-yak-ar-vr-vikoristovuyut-u-pidgotovczi-vijskovih-ta-stvorenni-zbroyi-183908/ (date of application 26.08.2024) (in Ukrainian).

4. Steel Beasts Pro: heimifikatsiia protsesu navchannia dlia viiskovykh Militarnyi [Steel Beasts Pro: gamification of the training process for the Militarnyi military] URL: https://mil.in.ua/uk/blogs/steel-beasts-pro-gejmifikatsiya-protsesu-navchannya-dlya-vijskovyh/ (date of application 26.08.2024) (in Ukrainian).