UDC 355

S. Bielai

O. Mynko

PROBLEM ISSUES OF TRAINING SPECIALISTS OF THE COMMANDING AND HEADQUARTERS STAFF OFFICERS OF TACTICAL LEVEL UNITS OF THE NATIONAL GUARD OF UKRAINE IN THE PROFESSIONAL EDUCATION SYSTEM

The author analyzes a number of scientific publications on the impact of modern technologies on the course of the main types of combat, taking into consideration the current experience of combat and military operations during the Russian-Ukrainian war. Trends in the tactics of using tactical level units on the battlefield are outlined.

The latest program article of the Commander-in-Chief of the Armed Forces of Ukraine is analyzed. Conclusions are drawn and directions of scientific and theoretical development of tactics of using the National Guard of Ukraine units on the modern battlefield are determined.

Proposals are made for obligated implementation into the educational process of military educational institutions the study about the impact of modern technological means of armed struggle on the tactics of using the National Guard of Ukraine.

***Keywords**: combat experience, lesson, analysis of actions, tactics, specialists, system of professional military education, security and defense forces, the National Guard of Ukraine, war, state security.*

Statement of the problem. The ongoing criminal military aggression of the Russian Federation against Ukraine is constantly expanding the range of challenges facing the security and defense forces in the field of education and training of troops.

By now, invaluable modern combat experience in conducting operations, battles, and combat actions has been accumulated to a large extent, which makes it possible to outline new ways in the approaches to the use of units on the battlefield. These ways are reflected in a number of scientific professional and specialized publications, but they are not systematic. At the same time, the system of professional military education does not have fundamental changes in the scientific and theoretical support for the training of command and staff specialists for tactical units. Significant changes need to be made to the combat manuals, which are the basis for teaching tactics in higher military educational institutions.

Therefore, it is advisable to consider the directions of scientific and theoretical development of the tactics of use of the National Guard of Ukraine (NGU) units on the modern battlefield.

Analysis of recent research and publications. Modern forms and methods of warfare (combat operations) on the Russian-Ukrainian front are reflected in numerous domestic and foreign publications in both professional journals and the media.

The lessons learned make it possible to identify problematic issues in both the system of comprehensive support for the troops and the system of training for the security and defense forces of Ukraine.

Given the fact that the military formations of the NGU are actively involved in combat missions to repel armed aggression, military scientists and specialists pay considerable attention to the problematic issues of developing scientific and theoretical support for the educational process in the NGU higher education institutions.

Most of the experience gained and conclusions are presented in collections of theses at scientific and practical conferences of the NGU. Also, modern problematic issues and modernization of the theory of development and employment of troops and ensuring state security are covered in periodical professional scientific publications of the NGU.

A significant number of scientific publications reflecting current trends in the use of forms, methods and means of armed struggle relate to the use of unmanned vehicles on the battlefield: unmanned aerial vehicles and ground robotic systems.

For example, the problematic issues of using unmanned aerial vehicles and ground robotic systems in the NGU and combating such enemy means are discussed in ten (!) theses at a scientific and practical conference and in only one publication [1]. In addition, these problematic issues are periodically covered in professional scientific publications of the NGU. For example, the scientific publication [2] points out the need to develop and implement autonomous unmanned aerial vehicles; publication [3] discusses the psychological component of the process of professional training of unmanned aerial vehicle operators, etc.

Thus, the impact of modern technologies on the course of combat is undeniable and should be considered in the learning process.

Researchers in scientific publications draw attention to the problematic issues of introducing combat experience in performing assigned tasks and measures to analyze the actions taken in the educational process [4, 5, 6]. Some issues of creating and implementing control room automation tools in the educational process of higher education institutions are displayed in the publication [7].

The program article of the Commander-in-Chief of the Ukrainian Armed Forces (AFU), General V. F. Zaluzhnyi [8], issued on February 1, 2024, is a publication that does not so much summarize the results of the confrontation between the parties in 2023 as it primarily outlines trends in the development of operational art and tactics in the further course of the Russian-Ukrainian war. In this publication, the Commander-in-Chief emphasizes the following areas of focus in 2024: creating a system for providing the Defense Forces with high-tech means; introducing a new philosophy of preparing and conducting military operations, taking into consideration the limitations; mastering new capabilities for combat operations in the shortest possible time.

In addition, in his publication, General Zaluzhnyi outlined the prospects for changes in the design of operations based on available technological capabilities. The emphasis, in particular, is on unmanned aerial vehicles. After analyzing the above publication [8], the following conclusions can be drawn:

1. In addition to the already existing staffed units for the use of unmanned aerial vehicles [currently, a certain number of units for the use of striking unmanned aerial systems have been created in the Armed Forces of Ukraine – companies (RUBAC), battalions], there is a prospect of introducing platoons of striking unmanned aerial systems in each mechanized battalion to perform combat missions of a particular battalion.

2. The range of domestic unmanned aerial systems, including strike aircraft, will develop rapidly. The supply and range of foreign-made technical samples will increase. The tactical and technical characteristics of unmanned aerial vehicles will change in the direction of expanding their capabilities.

3. The production of drones at public expense will increase.

4. Production of special ammunition for various purposes for attack unmanned aerial vehicles will be established and developed.

5. The demand for drone operators of various types will increase significantly.

6. Doctrinal documents on operations and combat will be amended.

Presidential Decree No. 51/2024 of February 06, 2024 established the Unmanned Systems Forces as a separate branch of the Armed Forces of Ukraine.

Therefore, based on the analysis of recent research and publications and new changes in the structure of the Armed Forces, the system of professional military education needs to make appropriate updates in the scientific and theoretical support for the training of command and command and staff specialists for tactical units.

The purpose of the article is to find ways to solve the problem of introducing into the military educational process updated scientific and theoretical sources on the tactics of using units and subunits on the battlefield during the training of command and command and staff specialists for tactical level units of the National Guard of Ukraine in the system of professional education.

Summary of the main material. Despite numerous attempts to update the combat manuals of the mechanized and tank troops of the Armed Forces of Ukraine and create new project, the security and defense forces continue to use somewhat outdated combat manuals.

At the same time, more and more experts recognize the use of unmanned aerial vehicles of various types as the main technological know-how of the Russian-Ukrainian war. In particular, the use of FPV (First Person View) drones is actually changing the course of the war [9].

This requires urgent changes in the scientific and theoretical sources on the tactics of using units and subunits on the battlefield. Combat manuals are the basis for teaching tactics in military educational institutions and are used in the preparation and conduct of combat (combat operations) by tactical level officers in the frontline area and on the line of contact.

Until the existing ones are amended or new combat statutes are developed and approved, it is proposed to use the gained combat experience in the

training of command and command and staff specialists for tactical level units of the NGU in the system of professional education. Thus, when teaching educational material related to the tactics of using NGU units in the course of performing assigned tasks on the battlefield, the discipline "General Tactics" will be the defining educational component. It is already advisable to take into consideration the factor of the use of unmanned aerial vehicles (and protection against them) when studying the process of military decision-making by cadets and students of the NGU military educational institutions.

It is proposed to study the possible tactics of application the units of the National Guard of Ukraine on the battlefield with the use of unmanned aerial vehicles by typical stages of conducting at least the main types of combat and by periods of enemy fire damage.

For example, a defensive battle usually consists of the following main stages: defeating the enemy during its advance and deployment; destroying the enemy in the front line of defense; repelling the enemy's attack and holding the front line of defense; and destroying the enemy that has joined the defense. Fire destruction of the enemy in a defensive battle can be carried out in the following periods: fire preparation for repulsing an enemy attack; fire support of defending troops.

An offensive battle usually has the following main stages: movement to contact; attacking the front edge of the enemy's defense and performing the immediate task; fighting in the depths of the enemy's defense and performing the subsequent task; pursuing the retreating enemy. In the case of an attack with a move from the depths, in addition, the movement and deployment in combat order.

Fire destruction of the enemy in a defensive battle can be carried out by periods: fire preparation of the attack; fire support of the advancing troops.

Thus, in the course of practical exercises to develop skills in practicing the stages of the battle preparation process and the military decision-making process, it is advisable to introduce full-time units of striking unmanned aerial vehicles into the training staff of the NGU military formations.

For example, during the third stage of the military decision-making process (development of options), one of the factors that will determine the worst case scenario is the lack of forces and means to use drones, and a conditionally favorable option is the presence of a full-time reconnaissance and strike unit of unmanned aerial vehicles.

Accordingly, when analyzing options (drawing and comparing them), comparing options, and selecting and approving an option, future tactical commanders will always remember the possibility of using units that use unmanned aerial vehicles, regardless of whether they are currently in the military formation or are only planned.

In addition, commanders will learn how to properly use operators of unmanned aerial vehicles on the battlefield and avoid using them for other purposes, sometimes with tragic consequences [10].

The feasibility of using this approach in training has been confirmed by practice. There are already examples where limited resources (reduced supply of shells and mines) are successfully compensated by FPV drones, which sometimes force the enemy to leave their positions in the absence of direct contact with them and allow us to save the lives and health of our servicemen, protect equipment, save other types of ammunition, etc.

Another and no less relevant area of training for NGU officers is the development of their ability to use control automation tools. The Russian-Ukrainian war has demonstrated the rapid development of control and communication automation technologies. Software products such as Kropyva, FireFly, Delta, Terminal, and the prospect of developing new programs poses challenges to military academy professors in terms of their awareness and professional abilities to teach cadets and students how to use modern software.

For example, the mentioned Kropyva is a tactical combat control system. It is software for creating intelligent maps. In combination with devices and instruments, it is a software and hardware complex for collecting, analyzing and processing various information for intelligence units of the Land Forces. This software is designed to plan the work and orientation of combat units. According to military experts, Kropyva is used by 90–95 % of artillerymen.

FireFly is a control system for unmanned aerial vehicles or weapons (barrage munitions). It can operate in manual and automatic modes. Its capabilities include situational awareness, engagement of enemy targets beyond line of sight, search for maneuvering troops, and tactical reconnaissance.

At its core, Delta is not a single program, but a system with several components. One of them is a digital map that exchanges information from different units and branches of the military. Another component is a streaming service for broadcasting video surveillance from drones and cameras. Delta is an online system that provides real-time information about the tactical and operational situation on the battlefield.

The Terminal information and telecommunication system is designed to collect, decrypt, process, exchange and display intelligence information from unmanned aerial vehicles and ground-based fixed and mobile video surveillance cameras and work with maps.

At the same time, we should not forget to study the tactical and technical characteristics and rules for using modern communication systems, both domestic and foreign.

Thus, control automation equipment and new means of surveillance, reconnaissance and defeat of

the enemy are increasingly being used in the military, and the main thing is to keep up with the self-development of academic staff and take appropriate advanced training courses to better teach cadets and students of military universities how to conduct modern combat (combat operations). And the necessary changes will be made to the military regulations in due course. Also, one of the main challenges in the training process will be the provision of appropriate training material and technical base for the military schools.

Conclusions

Thus, current trends in changes in the use of forms, methods and means of armed struggle largely relate to the use of unmanned vehicles on the battlefield, mostly unmanned aerial vehicles in the air, ground robotic systems on land and surface drones at sea. These changes force the military and political leadership of both Ukraine and the aggressor country to pay attention. In the near future, the race to be ahead in the development of new forms, methods and means of armed confrontation in the Russian-Ukrainian war will gain momentum.

To a certain extent, Ukraine's success in this race with the enemy will be determined by the ability of officers, especially at the tactical level, to use technological breakthroughs of recent years.

Scientific and pedagogical staff of higher military educational institutions need to make greater use of the experience of war, to master modern software and the ability to use the latest weapons and military equipment, including unmanned aerial vehicles, ground robotic systems, as well as other specialized software and technical means of armed struggle.

This will make it possible to move to appropriate changes in the training of command and command and staff specialists of tactical-level units of the National Guard of Ukraine in the vocational education system in advance of the fundamental changes planned by the Commander-in-Chief of the Armed Forces of Ukraine for 2024.

The direction of further research should be the development of scientific and theoretical foundations for the use of units on the battlefield, taking into consideration the rapid technological progress in the field of defense technologies.

References

1. NA NGU (2023). *Zbirnyk tez dopovidei Vseukrainskoi naukovo-praktychnoi konferentsii "Aktualni problemy diialnosti skladovykh sektoru bezpeky i oborony Ukrainy v umovakh osoblyvykh pravovykh rezhymiv: potochnyi stan ta shliakhy vyrishennia"* [Proceedings of all-Ukrainian scientific and practical conference "Actual problems of the activities of the components of the security and defense sector of Ukraine in the conditions of special legal regimes: the current state and ways of solving them"]. (Ukraine, Kharkiv, March 30, 2023). Kharkiv : NA NGU, pp. 1–887 [in Ukrainian].

2. Samoilenko V. M. (2023). *Obgruntuvannia zastosuvannia avtonomnykh bezpilotnykh litalnykh aparativ, shcho osnashcheni optyko-elektronnoiu systemoyu navihatsii, dlia vykonannia zavdan pidrozdilamy Natsionalnoi hvardii Ukrainy* [Justification of the need for the use of autonomous unmanned aerial vehicles equipped with an optical and electronic navigation system during the performance of tasks by units of the National Guard of Ukraine]. *Chest i zakon,* no. 4 (87), pp. 83–91 [in Ukrainian].

3. Pasichnyk V. I., Shyrobokov Yu. M., Savchuk O. A. (2023). *Psykholohichni osoblyvosti diialnosti operatoriv bezpilotnykh aviatsiynykh kompleksiv taktychnykh klasiv ta yikh urakhuvannia u praktytsi profesiinoi pidhotovky tsykh viiskovykh fakhivtsiv* [Psychological features of the activity of operators of unmanned aerial systems of tactical classes and their consideration in the practice of professional training of these military specialists]. *Chest i zakon,* no. 4 (87), pp. 113–120 [in Ukrainian].

4. Yakovenko Ye. S., Bielai S. V., Volkov I. M. (2022). *Zaprovadzhennia boiovoho dosvidu v osvitnii protses Natsionalnoi akademii Natsionalnoi hvardii Ukrainy pid chas vyvchennia zahalnoviiskovykh dystsyplin* [Introduction of the combat experience into the educational process of the National academy of the National Guard of Ukraine during the stady of combined military disciplines]. *Chest i zakon,* no. 4 (83), pp. 144–148 [in Ukrainian].

5. Mynko O. V., Morozov I. Ye. (2023). *Analiz provedenykh dii yak chastyna osvitnioho protsesu u viiskovykh navchalnykh zakladakh* [After action review as a part of the educational process in military educational institutions]. *Chest i zakon,* no. 3 (86), pp. 41–45 [in Ukrainian].

6. Yakovenko Ye. S., Ostryzhnyi O. V., Cherkashyn S. D. (2023). *Obgruntuvannia zaproponovanoi tekhnolohii vyvchennia ta vprovadzhennia boiovoho dosvidu v osvitnii protses Natsionalnoi akademii Natsionalnoi hvardii Ukrainy* [Justification of the proposed study technology and implementation of combat experience in the educational process National academy of the National Guard of Ukraine]. *Chest i zakon,* no. 4 (87), pp. 148–153 [in Ukrainian].

7. Obriadin V. V., Horielyshev S. A., Bondarenko O. H. (2023). *Problemni pytannia stvorennia ta vprovadzhennia avtomatyzovanoho navchalnoho komandnoho punktu u navchalnyi protses vyshchoho viiskovoho navchalnoho zakladu* [Problem questions of creation and use of automated

educational command post in the educational process of higher educational institutions]. *Chest i zakon,* no. 2 (85), pp. 36–44 [in Ukrainian].

8. Commander-in-Chief of the Armed Forces of Ukraine general Zaluzhny V. F. (2024). *Shchodo suchasnoho dyzainu viiskovykh operatsii u rosiisko-ukrainskii viini: v borotbi za initsiatyvu* [Regarding the modern design of military operations in the Russian-Ukrainian war: in the struggle for the initiative]. *Official web page of Armed Forces of Ukraine.* Retrieved from: http://surl.li/raovb (accessed 05 February 2024) [in Ukrainian].

9. Kozatskyi S. (2023). *FPV-drony: zbroia, shcho zminyla suchasnu viinu* [FPV drones: weapons that changed the modern war]. *Web page of NGO Ukrainian Military Center.* Retrieved from: http://surl.li/raovn (accessed 05 February 2024) [in Ukrainian].

10. Butusov Yu. Ye. (2024). *Dva vydatnykh operatora BPLA zahynuly v boiu cherez nedbale stavlennia kerivnytstva* [Two outstanding UAV operators died in combat due to the careless attitude of the leadership]. *Web page of Kyiv Post.* Retrieved from: http://surl.li/raovr (accessed 05 February 2024) [in Ukrainian].

The article was submitted to the editorial office on 10.02.2024

УДК 355

С. В. Бєлай, О. В. Минько

ПРОБЛЕМНІ ПИТАННЯ ПІДГОТОВКИ ФАХІВЦІВ КОМАНДНОЇ ТА КОМАНДНО-ШТАБНОЇ ЛАНКИ ДЛЯ ПІДРОЗДІЛІВ ТАКТИЧНОГО РІВНЯ НАЦІОНАЛЬНОЇ ГВАРДІЇ УКРАЇНИ В СИСТЕМІ ПРОФЕСІЙНОЇ ОСВІТИ

Проведено аналіз низки наукових публікацій стосовно впливу сучасних технологій на перебіг ведення основних видів бою з огляду на сучасний досвід ведення боїв та бойових дій під час російсько-української війни.

Проаналізовано останню програмну статтю Головнокомандувача Збройних Сил України. Сформовано висновки і визначено напрями науково-теоретичного розвитку тактики застосування підрозділів Національної гвардії України на сучасному полі бою.

Окреслено тенденції до подальшого збільшення практики застосування ударних дронів силами оборони та безпеки України як значної ударної сили в основних видах бою на тактичному рівні, особливо за умов відсутності або нестачі артилерійських боєприпасів чи неможливості використовувати інші засоби ураження. Спрогнозовано подальші зміни у тактиці застосування підрозділів тактичного рівня на полі бою з урахуванням технологічних аспектів.

Розглянуто низку сучасних програмних і технологічних продуктів, які знайшли широке застосування у військах, як приклад стрімкої інтеграції технологій у забезпечення ведення бойових дій на різних рівнях військового управління. Підкреслено проблему необхідності навчання військовослужбовців, дотичних до управління військами, навичкам володіння сучасними технологіями, що дедалі ширше застосовуються у військах під час відсічі збройної агресії з боку російської федерації.

Подано пропозиції щодо обов'язкового впровадження в освітній процес військових навчальних закладів вивчення впливу сучасних технологічних засобів ведення збройної боротьби на тактику застосування підрозділів Національної гвардії України.

Ключові слова: *бойовий досвід, урок, аналіз проведених дій, тактика, фахівці, система професійної військової освіти, сили безпеки і оборони, Національна гвардія України, війна, державна безпека.*

Bielai Serhii – Doctor of sciences in public administration, Professor, deputy Head of the educational and scientific center for the organization of the educational process – head of the scientific and methodical department of the National Academy of the National Guard of Ukraine
https://orcid.org/0000-0002-0841-9522

Mynko Oleksandr – PhD in state security, Head of the department of professional training of the National Academy of the National Guard of Ukraine
https://orcid.org/0000-0002-8841-1511