



Research Article

# The Impact of War on the Ukraine Military Education System: Moving Forward in War and Peace

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**Abstract:** The Russian invasion of Ukraine and Ukraine’s subsequent and ongoing combat successes have proven that agile, adaptive leaders can triumph against a better-equipped enemy. The foundational educational reforms within the Ukrainian Armed Forces, begun in 2018, have paid incalculable dividends. This article examines Ukraine’s Professional Military Education (system) before and during the war and proposes a policy to continue to prioritize training and education now and in the future.

**Keywords:** Ukraine, education, reform, professional military education, PME, National Defense University.

## Introduction

In the initial analysis of the impact of the Russo-Ukrainian war, it is critical to understand the experience and results of Ukraine’s defense reform. This is especially true for the reform of military education, which has been ongoing since 2014 and formally institutionalized in 2018 with the signing of the policy on “Military Education and Training of Military Specialists.”<sup>1</sup>

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<sup>1</sup> Ukraine Ministry of Defence, “Military Education and Training of Military Specialists, 2018,” *ArmiyaInform*, October 7 2021, in Ukrainian, <https://armyinform.com.ua/2021/10/07/pislya-vnesennya-zmin-do-chynnogo-zakonodavstva-systema-vijskovoyi-osvity-zaprachyuye-po-novomu-pershij-zastupnyk-ministra-oborony-ivan-rusnak/>.

It was clear that there were significant and obvious differences in approaches to training, planning, employment, sustainment, and command and control between the armed forces of the Russian Federation and the Armed Forces of Ukraine (AFU). In essence, these differences have constituted an advantage for Ukraine in many areas of the current conflict. They have denied the ability of Russian forces to attain their strategic wartime goals (what the Russian “special military operation” was calling “denazification” and “demilitarization” of Ukraine).

It is important to remember that Ukraine has no decisive advantage over Russia in armaments and military equipment (neither in quantity nor in quality). Prior to the initial full-scale Russian aggression on 24 February 2022, the Russian Federation was constantly increasing its spending on the armed forces. According to a Stockholm International Peace Research Institute (SIPRI) assessment, Russian defense spending in 2021 was 65.9 billion U.S. dollars, an increase of 2.9% over 2020.<sup>2</sup> The same report indicates that 2021 Ukraine military spending was 5.9 billion U.S. dollars (3.2% of GDP). Russian casualties sustained during the first phase of the large-scale invasion were more than ten times higher than those of Ukraine.<sup>3</sup> This demonstrates that the main factor for the success of the AFU was not material. It occurred despite the disadvantage of available resources.

In addition, over the last eight years, Russia has deliberately implemented a military strategy of domination to attain the goals identified in the Russian Military Doctrine published in 2014.<sup>4</sup> Throughout the recent past, Russia has also taken active measures to decrease Ukraine’s defense capacity by employing hybrid war or grey zone tools. Under such conditions, one of the key aspects that defined a required level of readiness for the AFU to be prepared to successfully resist enemy forces was the use of a full spectrum of Western resources. This includes adopting a model of intellectual leadership that uses Western practices and procedures (doctrine) and mastering and integrating Western military equipment into AFU operations.

Going forward, a paramount means of achieving military success should be the continued implementation of Western approaches and procedures for AFU operational activity. This was demonstrated by the successful AFU defensive operations in northern Ukraine during February-March 2022 when Ukraine had not

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<sup>2</sup> Marina Baranovskaya, “Stockholm International Peace Research Institute: Trends in World Military Expenditure in 2021,” *DW*, April 25, 2022, <https://www.dw.com/ru/doklad-sipri-rossija-v-pjaterke-stran-s-krupnejshimi-oboronnymi-bjudzhetami/a-61547137>.

<sup>3</sup> Ukrainian Military Center, March 12, 2022, <https://mil.in.ua/uk/news/z-pochatku-povnomashtabnoyi-vijny-zagynuly-1300-vijskovyh-ukrayiny>.

<sup>4</sup> Ministry of Defense, “The Russian Doctrine of the Russian Federation,” December 25, 2014, <https://www.mchs.gov.ru/dokumenty/2940>.

yet obtained heavy weapons from the West. The employment of modern doctrine was a key factor in the success of that defense. Doctrine, not weaponry alone, is decisive.

A concept for utilization of the Western model of military leadership was established as a foundation for Ukraine's military educational reform. This envisages forming a modern military culture based on critical thinking in the Officer and NCO Corps of a nation. According to the United States Joint Chiefs of Staff, this is a key factor for victory in modern war.<sup>5</sup> Leaders are needed that are intellectually superior to their adversaries. This particular aspect can allow the AFU to successfully deter the adversary in conventional war conditions, fought with third and fourth-generation weapons, and with the enemy's quantitative advantage.

Along with other broader strategic goals, for the concept of a Professional Military Education (PME) system to be successful, it is essential to implement fundamental changes in the contents of academic curricula. This is a curriculum that should be viewed as a basis for change in the professional mentality of the Officer Corps within the Armed Forces of Ukraine. Substantial changes in the military education system are needed to develop new competencies in future military professionals. This will require creating a new educational capacity in military education institutions and transforming some existing capacities.

The critical importance of these military education system changes emerged with the events of Maidan Square in 2014 and significantly increased after the beginning of the current fighting. Given the ensuing Russian-supported military operations to occupy Crimea and Donbas regions, the need for the AFU to modernize and professionalize in the face of the expanded threat became critical for the survival of the Ukrainian state. The AFU's PME system would be key to supporting this significant change.

### **Why Are the Proposed Changes Necessary Now?**

Ukraine is going to find itself in a new reality after the war is over. Even now, it can understand the advantage of adaptive, flexible, and modern armed forces in confrontation with a military system that has not adapted to the needs of 21<sup>st</sup>-Century warfare. The Russian Armed Forces have employed obsolete models of training, command and control, force deployment, and sustainment. The initial success of the AFU was based on their movement away from these obsolete post-Soviet approaches in training and education. In fact, eight years of changes in the AFU have formed the foundation for a new quality professional, resulting

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<sup>5</sup> The Joint Chiefs of Staff, "Developing Today's Joint Officers for Tomorrow's Ways of War: The Joint Chiefs of Staff Vision and Guidance for Professional Military Education and Talent Management," May 1, 2022, [https://www.jcs.mil/Portals/36/Documents/Doctrine/education/jcs\\_pme\\_tm\\_vision.pdf?ver=2020-05-15-102429-817](https://www.jcs.mil/Portals/36/Documents/Doctrine/education/jcs_pme_tm_vision.pdf?ver=2020-05-15-102429-817).

in the creation of a new generation of Ukrainian military leaders.<sup>6</sup> They are trained to understand the modern information environment and the role of joint operations and are able to skillfully take advantage of informational awareness during operational planning and execution.

Aware of the adversary's significant quantitative, technical, and technological advantages, Ukraine was forced to prepare for a potential large-scale Russian invasion. The response to the attack was based on the utilization of the indirect or asymmetric approach.<sup>7</sup> This approach is about the exploitation of vulnerabilities in Russia's implementation of Soviet military doctrine, where success in a conventional conflict is based on an advantageous correlation of forces that emphasize massed armor/mechanized formations while having significant quantitative superiority and technological dominance in the air and with artillery/missile forces.

Ukraine's response was based on the utilization of a *Mission Command* philosophy that allowed flexibility in command and control and the successful execution of small unit tactics. It also required good employment of well-known terrain to delay the Russian advance and avoid large battles to preserve Ukrainian combat power. The efficiency of the resistance increased because of higher morale, an advantage in situational awareness, and better-balanced logistics, which enabled increased sustainability and allowed the conduct of successful strikes on critical Russian force elements such as logistical supply chains and command and control.

These aspects that enhanced Ukraine's successes on the battlefield should be researched further in the future. However, the foundation of changes implemented by the AFU thus far is already apparent: a new format of individual and collective training (this included the utilization of the full capacity of all military training and educational institutions along with simulation centers); operational experience gained by employment in Anti-Terrorist Operations and of Joint Forces Operations in the Donbas region between 2014-2022); development of a professional Non-Commissioned Officers Corps; and changes in the officer and NCO way of thinking based on the implementation of progressive educational programs, were critical factors. It is clear that the principles of *Mission Command* and associated *Leadership* concepts must be inseparable elements of officer and NCO training programs at tactical and operational levels.<sup>8</sup>

All these concepts, key for a 21<sup>st</sup>-Century military, are based on approaches that are currently being implemented and adopted by NATO member states.

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<sup>6</sup> Neveen Shaaban Abdalla et al, "Intelligence and the War in Ukraine: Part 2," *War on the Rocks Blog*, May 19, 2022, <https://warontherocks.com/2022/05/intelligence-and-the-war-in-ukraine-part-2/>.

<sup>7</sup> Liddell Hart, *The Strategy of Indirect Approach* (Meridan Publishers, 1941), <https://archive.org/details/strategyofindire035126mbp/mode/2up>.

<sup>8</sup> National Defence University of Ukraine, "Syllabus Module: General Tactics, 2021-2022," unpublished paper, <https://nuou.org.ua/assets/documents/sulabys-model-8-13-ukr.pdf>, <https://nuou.org.ua/assets/documents/silabus-modulyu-4-1-2-sv.pdf>.

Ukraine is adopting those same NATO standards throughout the force. According to the General Staff, as of mid-2021, over 300 NATO Standards were in various stages of being adopted by the Armed Forces.<sup>9</sup>

Ukraine received significant support for these changes to the Ukraine PME system from the Defense Education Enhancement Program (DEEP). As a joint NATO/Partnership for Peace Consortium (PfPC) effort, the DEEP program was created in 2007 to support the modernization and professionalization of NATO partner PME schools: war colleges, staff colleges, junior officer courses, military academies, NCO academies, language training schools, and schools designed to train Ministry of Defense civilians. This support emphasizes curriculum development (what to teach), faculty development (how to teach), and institutional support (administration and management of a school).<sup>10</sup>

Since 2013, DEEP support has been provided to 11 different Ukraine PME schools: the National Defense University of Ukraine (NDUU), seven pre-commissioning schools (Kharkiv, Kyiv, L'viv, Odesa, Zhytomyr), and three NCO Training Centres. As of the period just prior to the 24 February 2022 Russian attack, this included:

- The NDUU transitioned its war college/staff college-level courses to NATO-standard curricula.
- Every PME school had created courses and was teaching NATO-standard Troop Leading Procedures/Military Decision-Making Process/ Joint Operational Planning Process planning and decision-making as appropriate to the mission of the specific school.
- NATO-standard NCO Basic, Intermediate, Advanced, Command Senior Enlisted Leader (CSEL), and NCO Basic and Advanced Instructor Courses had been created and were being taught.
- A minimum of 600 hours of English Language Training became required in every pre-commissioning school.<sup>11</sup>

Today it is evident that additional lessons learned from the current wartime Ukraine experience must be institutionalized within the military education system. More importantly, the education and training system should continue outpacing the current processes to ensure the successful implementation of the fu-

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<sup>9</sup> “Fully Developed NATO Standards, Now the Decision on the Alliance – Commander-in-Chief of the UAF,” *Radio Liberty*, February 26, 2021, [www.radiosvoboda.org/a/news-zaluzhnyi-ukraina-nato/31478997.html](http://www.radiosvoboda.org/a/news-zaluzhnyi-ukraina-nato/31478997.html).

<sup>10</sup> Trevor Johnston and Alan G. Stolberg, *The Challenges and Opportunities of Institution Capacity Building Through Professional Military Education: Lessons from the Defense Education Enhancement Program*, Research Report (Santa Monica, CA: RAND Corporation, Summer/Fall 2022), 4-5, [https://www.rand.org/pubs/research\\_reports/RRA1238-1.html](https://www.rand.org/pubs/research_reports/RRA1238-1.html).

<sup>11</sup> Partnership for Peace Consortium, “Defense Education Enhancement Program Overview Brief,” unpublished briefing, August 5, 2022.

ture vision for the AFU. As evidenced by the support provided by the DEEP program, external assistance will continue to be available to facilitate future changes in Ukraine's PME system.

### ***What Is Going to Change in the Armed Forces?***

It will be necessary to review all current approaches to learning military art. By necessity, this must include addressing the overall system of operational standards currently in use by the AFU. Remnants of post-Soviet approaches are likely to become things of the past. At the same time, this review process would need to ensure simultaneous integration of the AFU's experience of employment and new approaches of the NATO states into the content of doctrinal publications. Doctrinal changes will have already begun to form based on analysis of the ongoing conflict.

Refinement of NATO/EU and global allied approaches to the war is inevitable.<sup>12</sup> Sharing its experience, Ukraine is likely to play a lead role in a global process of learning lessons and implementation in analytic products to ensure the development of the defense capabilities of the Western states.

The modern generation of military leaders of the AFU should actively engage in an exchange of lessons learned/best practices in the areas of force training, operational maneuver and fire employment, command and control, and logistics/sustainment. This would facilitate the deepening of cooperation between Ukraine with members of the Alliance and its global partners and transition to a different level of trust and relationship with the Allies, which, at this stage, is of utmost importance for the AFU.

As a result of extensive combat employment, the AFU will face the necessity of total re-armament with Western military equipment even while the war is ongoing. Ukraine will also require continuous equipment supplies from NATO and EU states, which should continue in the post-war period.<sup>13</sup> There will be a sharp decrease in the percentage of Soviet equipment in Ukraine, requiring the implementation of NATO standards in logistics and force employment at the tactical level.

### ***How Should the Military Training and Education System Change?***

Given the current conflict and the many lessons being learned, it will be important to accelerate the implementation of NATO standards into the military

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<sup>12</sup> David Johnson, "The Army Risks Reasoning Backwards in Analyzing Ukraine," *War on the Rocks Blog*, June 14, 2022, <https://warontherocks.com/2022/06/the-army-risks-reasoning-backwards-in-analyzing-ukraine/>.

<sup>13</sup> Alexei Reznikov, "Three Types of 155-mm Artillery are Already Successfully Operating on the Front Line – the M777 Howitzer, the FH70 Howitzer, the CAESAR ACS. Ukraine Received ACS M109," *Ministry of Defence of Ukraine Website*, May 28, 2022, <https://www.mil.gov.ua/news/2022/05/28/na-peredovij-vzhe-uspishno-pracuyuyut-tri-vidi-155-mm-artilerii-%E2%80%93-gaubiczya-m777-gaubiczya-fh70-sau-caesar-v-ukrainu-nadijshli-sau-m109-%E2%80%93-oleksij-reznikov>.

training and education process, in part because employment of modern military equipment, primarily of Western origin, is best utilized with Western doctrine. The need to make these changes will significantly impact curricula and training programs at all levels, beginning from familiarizing with a particular weapon system and the associated adaptations to unit tactics and operations.

At the same time, implementing such programs will require a paradigm shift in the military education system. An important aspect of the change lies in the selection of a modern vision for the system as a whole, as well as a strategy for developing military education institutions. The experience of the National Defence University of Ukraine (NDUU) suggests that the integration of leadership programs at the tactical, operational, and strategic levels in 2019-2022 forced them to substantially review not only the content of military education but also relationships among faculties (departments) of the University, as well as the relationship between the teacher and the student.<sup>14</sup> A new Strategy of the University was adopted, focusing on the implementation of a student-centered approach as key for the change<sup>15</sup> and envisaging the re-constitution of all processes involved in the management of the educational institution. In essence, these changes will represent the introduction of modern military culture to the students and faculty of the NDUU.

### ***What Changes Would Mean for Military Education Institutions?***

The fact that formal reform of the military education system has been ongoing since 2018 could permit the lessons learned from the Russia-Ukraine war to catalyze a major qualitative transformation of the system. However, the system should not wait until the war is over for the new changes to begin.

Military education institutions have to actively participate in the development of a new approach to teaching military art and create respective academic curricula. Content improvement should be made in parallel with the revision of teaching methodologies. Meeting the requirements of the changes should be a foundation for military education institutional success. When addressing this issue, it would be helpful to outpace the flow of real-world events, allowing the education system to anticipate 3 to 5 years in the future.

Military educational institutions must create processes to identify and integrate new lessons learned based on interaction with graduates and the needs of their future assignments. It is necessary to address practical issues of improvement of education content and academic components in different areas, emphasizing practical elements of education, such as case studies, exercises, simulations, field trips, and practicums. The upgrading and enhancement of the curric-

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<sup>14</sup> National Defence University of Ukraine, "National Defence University of Ukraine Named After Ivan Chernyakhovsky," 2019, <https://nuou.org.ua/assets/documents/nduu-2019.pdf>.

<sup>15</sup> National Defence University of Ukraine, "National Defence University Strategy 2020-2025," 2020, <https://nuou.org.ua/assets/documents/strategy-nduu-2020-2025.pdf>.

ula must be coordinated with how it is taught to the students. Instructor application of modern teaching methodologies that focus on active learning and student critical thinking will be essential for the making of 21<sup>st</sup>-Century leaders. In turn, strong critical thinking skills will allow for an easier understanding of the NATO-standard Mission Command concept and its employment in an operational environment.

### **Military Education and Training Challenges during Wartime**

A separate area for research and analysis is the ability of a military education and training system to operate during times of war. This should include the ability to provide adequate sustained training for all categories of civilians (Ukrainian citizens) to allow them to be able to rapidly adapt to the conditions of war. In particular, it will be critical to review approaches to the sustainment of the military education and training system during conditions of the constant threat of enemy strikes across the entire country.

These are very difficult problems to solve. The expectation that military educational institutions would relocate, transition to shortened programs, or conclude cadet pre-commissioning training did not occur after the Russian attack. The result is that the process of transition to specific wartime training programs appears to be long-lasting and requires the availability of time, which is not necessarily present in wartime conditions.

The problem becomes more complicated because of a need to temporarily transition from a higher education standard to practical military education needed for wartime usage. This will require a system in place to ensure that students are able to study the curricula they missed after the fighting is over. Under these conditions, many peacetime education standards will likely not be applicable in wartime. At the same time, following existing approaches, continuation and completion of education should be in accordance with the current standard after the fighting ends.

All existing programs will require review for potential change: Officer, NCO, and those offering graduate and undergraduate degrees. They must all become components of a fully integrated future military education system. It will be necessary to find an intelligent balance between education and training; allow service members to study in a way that is comfortable for them throughout their career, either in residence, online, or a hybrid of the two. A 21<sup>st</sup>-Century military professional will need varied education and training at every level of military service.

As an example, it will be appropriate to analyze potential ways to ensure coordination between the civilian education used to supplement officer and NCO military education and training and for military education and training to prepare civilians for the rigor of military service. This encompasses opportunities for commissioned and non-commissioned officers to get non-military education degrees in the civilian system of education and obtain military education for civilians who already have an education degree from civilian educational institutions. At the

mid-grade officer level, it will be appropriate to actively provide incentives for officer professional development in business schools<sup>16</sup> to ensure flexibility and alternative approaches to thinking (non-military) and enrichment of available tools for non-standard leadership decision-making.

As described earlier, the focus for the future transformation of the Armed forces of Ukraine's military education and training system will reside with the Euro-Atlantic community. To ensure maximum opportunity for success, several other components of the military system will have to be in place and fully coordinated with each other:

1. Both the officer and NCO human resource systems will have to be transformed/adjusted to ensure that ALL personnel is scheduled/ required to go to schools/courses at specific times in their careers – either through in-person or online attendance. Promotions and the ability to assume certain job positions must be tied to such a system for all levels.
2. For the re-equipping of the AFU with all Western weapons and maintenance/supply chains—an internal Ukraine industrial base change will have to take place—where some of this will start being produced in Ukraine by Ukrainians. It will be impossible for Ukraine to depend on the West forever in these areas, and clearly, Ukraine wants to be self-sufficient. This will mean a greater emphasis on logistics/supply chain management education in various schools/courses.
3. English Language Training and associated student proficiency will have to be a requirement for promotion and attainment of certain positions.

Continued cooperation with NATO and EU states and adopting key lessons learned from the Russia-Ukraine war will ensure maximum opportunity for real change. Since the Russian invasion began on 24 February 2022, the AFU has demonstrated its ability to maximize its presence on the battlefield. To be able to have an enduring capacity for similar success in the future, its military education and training will have to be able to do the same.

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<sup>16</sup> Ben Buchheim-Jurisson and Joseph Mellone, "Helping the Leadership Lead," *War on the Rocks Blog*, June 30, 2022, <https://warontherocks.com/2022/06/helping-the-leadership-lead/>.

## Disclaimer

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