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REFORMS IN THE SYSTEM OF MILITARY EDUCATION AS PART OF THE EURO-ATLANTIC INTEGRATION PROCESSES

Abstract: *In this paper, we evaluated the latest reforms in the system of military education in the Republic of Macedonia. Based on the determination for NATO and EU membership, a need for transformation of military education and training system has emerged, and together with that, the redefinition of the role and responsibilities of the Military Academy. According to this, the Military Academy will educate, train and qualify officers for the needs of the Army, but also will educate personnel for the needs of the System for Crisis Management and System for Protection and Rescue of the Republic of Macedonia. The aim is to educate leaders with modern general and military knowledge, skills, and techniques. Starting from the summary of the requirements for military education and conditions in which this system is developing, together with the influences of modern warfare on this system, are considered. Evaluation of the curricula of military education is given, following with the need for permanent continuous education throughout the whole carrier. We also evaluate the need for implementation of the modern educational technologies and methodologies based on information technology in the system of education.*

Key words: *education, modern warfare, curricula, integration, information technology, modeling and simulation, Advanced Distributed Learning*

PREFACE

Providing security in a rapidly changing and unpredictable world is a foremost task of every government - a task shaped by political, cultural, and technological characteristics of a nation and the potential of its people. Maintaining national security still depends to a large extent on the military,

their morale, motivation, and specialized skills which are influenced by their academic background, professional education, and training.

The social justification for the subsistence of the Military Academy comes out of the needs of the Republic of Macedonia to generate its own officer core that will fulfill certain duties within the defense and security system of the state. Education and training of officers and civilian personnel that carry out certain duties and tasks within the defense system and the Army entails acquisition of theory and practice of complex military and other sciences at different educational levels within the system of military education and training throughout professional carrier. Together with that, quality of education and preparedness of the personnel within the defense system is in high correlation with the development of theory and practice in the area of military sciences.

The current requirements for military education are shaped by the new world political order, economic, technological, and legal factors, and the development of democratic institutions in the Republic of Macedonia. Some of these are general for military educators worldwide, while others are specific for the present situation in the region in which the Republic of Macedonia belongs. Of a particular importance is the role of the military education for development of democratic civil-military relations in the Republic of Macedonia. The most important single factor demanding change, however, is the Information Revolution and the corresponding Revolution in Military Affairs. More than ever, military must be educated to anticipate change, cope with ambiguity, question traditional boundaries, and lead organizational transformation.

Based on the determination of Republic of Macedonia for NATO and EU membership has emerged the need for transformation of officer education and training system, and in line with that redefinition of the role and responsibilities of the Military Academy. The transformation of the system is conveyed in accordance with the standards of NATO and EU member countries and includes establishing of a high level of compatibility with the educational systems of the NATO member countries. The transformation was required in order to build a new officer development system. Success in conducting defense missions, personnel training, teamwork, high personnel motivation and efficient command and control will be enabled with the construction of this system. In other words, it will provide efficient professional and qualitative personnel working in the Army of the Republic of Macedonia (ARM), and other institutions within the defense and security system of the country. The goal is to have well educated and trained officer core that should successfully accomplish the mission in the country and abroad, respecting the basic standards, values and regulations.

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The transformation of the Military academy was connected with the requirements of the Republic of Macedonia to develop education and training in the crisis management area, which includes disaster relief and integral border control, in accordance with the standards and procedures adopted in the NATO countries and EU members, where crisis management is one of the basic security related tasks. The efficient conflict management and the active participation during the crisis management is an integral part in the NATO approach and represents significant contribution from our country in maintaining peace and reinforcement of stability and security in the region and all around Europe. The education and training of the personnel within this important area presents a key for their development, and for their appointment on positions and duties within this system.

NEW REQUIREMENTS FOR MILITARY EDUCATION

The Military Academy educates and trains the future military personnel to become leaders in the 21st century in order to be able to command with modern general and military knowledge, skills, and techniques. They are also educated and trained to be honourable people who will serve their country. *Science, honour, duty and country* are the motto of the Military Academy. In the future we will need military who are critical thinkers, officers who can anticipate the change and deal with ambiguity and uncertainty, leaders who can promote organizational change in the face of traditional attitudes and adverse economic situation.

These new missions demand from the officers, often even on a platoon level, deeper knowledge of psychology and social behavior, languages, history of the conflict, cultural and religious peculiarities of the fighting fractions. Communication skills on every level become critical¹. A proper attitude of an educated officer can speed up the solving of the conflict and lower the casualties among the soldiers, as well as among the civilian population.

So far, another dimension of the use of military force - the ecological impact, has been largely unaddressed by the Macedonian military. However, the ecological dimension of a military operation could affect both the circumstances under which the Army is used and the way it is used in². The area of ecology is still to receive attention from our military educators.

Perhaps no single factor has as much potential as the information explosion for changing the way in which military organizations function during peace and war. Breakthroughs in sensors, information processing, communications, and visualization will make huge amounts of information

¹ See more in Gray and Tagarev, 1995.

² See more in Rokke, 1995.

available to the individual soldier. Time will shrink, and space will expand. Furthermore, emerging technologies will allow knowledge-level information to become the responsibility of computers rather than responsibility of individuals. To implement these technological developments effectively, military needs unprecedented delegation of decision-making authority, decentralization, and flatter organizational structures.

The emphasis of the education and training of military personnel should be put on critical observance; value orientation towards professionalism, ethics, and cooperation; good academic background in the field of Operation Research, System Analysis, Artificial Intelligence, Networking, Organization of Life Cycle Support; Foreign Languages, Law and Economics Competence, as well as development of research experience and strive for quality.

Challenges such as new warfare forms, combined with the technical environment, will mean that officers have to be trained more comprehensively, less specialized and will have to cycle back through school often during their careers. They will need a broader range of skills in order to be more flexible¹. Secondly, from the aspect of career, retirement from the military is not really a retirement but merely a change of careers. Therefore, to respond to personnel challenges, to contribute to the recruiting and retention of the best-qualified personnel, professional military education must tailor its education to individual needs.

One of the main features of democracies is the civilian control over the Armed Forces. Even countries with long-standing democratic traditions pay significant attention to maintaining such control. Main objective of the education and the military education in particular, in societies where the military is subordinate to political power is "to harmonize professional efficiency and democratic values which are determining factor in the civil-military interrelationship"². Traditionally, professional men and women tend to stress their special technical expertise, which in many cases may lead to alienation from society. To provide professional efficiency without such alienation, the education of officers (and future officers) should never be confined purely to the technical aspects. The general academic aspects are equally vital. In the rapidly changing values and motivations of the society, understanding and accepting the principle of civilian control require constant attention.

The Military Academy aims to develop and improve the teaching staff as the foundation of the educational process and the bearers of scientific and research work. It also aims to modernise the curriculum according to the

¹ See more in Spacecast, 1995.

² See more in Gilman and Herold, 1993.

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above mentioned principles, develop military science and technology, and to fulfil the needs of the Army. Another aim is to develop the instructional material base by introducing computer technology, and new teaching aids and equipment in the teaching process required by up-to-date teaching methods.

CHANGES IN MILITARY EDUCATION SYSTEM

Bases for new education and training system for officers in the Republic of Macedonia are connected with the promotion of quality, competitive spirit, training of new officer corps, promotion of new sources and methods for promotion of officers, selection and education of quality and competent candidates for officers. It should also, insure that the roles, duties and responsibilities of officers match future force structure by rank and level of responsibility, and insure that education requirements are linked to the needs for new missions and responsibilities of the Army.

Revolutionary changes place information and knowledge at the core of national influence and military power. Budget cuts and technological developments are pushing for smaller and more flexible forces. The growing complexity of forces and missions requires a new level of weapon systems integration and organizational change. The Information Age not only places requirements, but also provides opportunities to meet them. We conclude that the organization of military education has the chance to lead the changing military in the twenty-first century. It also becomes an agent for change or anachronism. To cope within such environment, we need military that anticipates change, which can deal with ambiguity and uncertainty, which can break traditional boundaries and lead organizational change even with the risk of questioning authority. There is no better place to prepare such people than in the system of military education.

The environment, in which the system of military education of the Republic of Macedonia functions, can be characterized by several main factors. Some of them are general for any modern society, and others are specific for the Republic of Macedonia. The first group encompasses the changing international political situation, corresponding changes in doctrine and mission, and the impact of the Information Revolution. The second group incorporates the specifics of the Republic of Macedonia transition towards democracy, obligations from the Ohrid framework agreement, the financial constraints, and the changes of the legal framework.

The changes in the international politics brought the end of the 'simple and stable' opposition of the Cold War. Answers to questions concerning players, capabilities, intentions, and perceptions, are not readily available anymore. Military students may not presume who their opponent or coalition partner would be and how they would act. New threats appeared

and the threat perception is changing. Terrorism, and especially international terrorism, international drug trafficking and organized crime are becoming targets of the military worldwide.

Respective doctrinal changes are taking places. New missions appear, i.e. international peacekeeping missions under the United Nations or the Organization for Security and Cooperation in Europe, and the emphasis is shifting towards participation in international missions, coalition warfare, peacekeeping and peacemaking missions, thus requiring from the military student a qualitatively new level of ethnic, religious, cultural, ecological, and human rights awareness.

The influence of technology and the information technology in particular, is overwhelming. It impacts the process of planning and conducting military operations, organization, communication, command and control, intelligence, procurement, education and training. A new kind of warfare emerged - the Information Warfare.

The domestic political situation influences the military in two main directions: orientation of the Republic of Macedonia toward integration in the European and Euro Atlantic security structures and building democratic institutions. The first requires education and training of the military for cooperation with new partners through participation in the Partnership for Peace program, leading the way to future interoperability of military forces. The latter is primarily concerned with building of democratic civil-military relations in the Republic of Macedonia. Both demand a stronger emphasis on leadership and cultural awareness of the military.

The preparation for such missions is taking place in a declining economic situation, financial limitations, force reduction and professionalization of the Army. Furthermore, democratic transformations are paralleled by changes in attitudes of the population. Armed forces are faced with the changing patterns of behavior and changing motivations of society in large. Changes in the value system of the society of Republic of Macedonia reflect in the emphasis on the 'occupational' versus the 'institutional' trend in the attitudes toward the military profession¹.

Finally, one part of the process of changes in the military educational system are the corresponding changes in the legal basis. Military academy is founded by the Law for Military Academy and functions in accordance to the Law for university education and the Law for scientific-research activities in the Republic of Macedonia. It is accredited by the Ministry of education and science according to the European Credit Transfer System, as a university educational and scientific institution.

¹ See more in Williams, 1995.

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The Military Academy became part of the university education system in Republic of Macedonia with a status of associate member to the state university "Goce Delcev" – Stip. Military Academy offers studies in three cycles (the first cycle - bachelor degree, the second cycle - master studies and specializations, and the third cycle - PhD). The university diploma of completed undergraduate studies at the Military Academy is verified in the country, which provides cadets and students with relevant positions for further education within the educational system of the Republic of Macedonia and other countries members of the Bologna process.

Military Academy, as the only military university education and research institution in the Republic of Macedonia, has a basic role to conduct research work and to educate, train and qualify personnel for the needs of the Ministry of Defense, the Army of the Republic of Macedonia, the System of Crisis Management and the System of Protection and Rescue.

One of the key functions of the Military Academy, beside education, is to carry out scientific and research work and development of special studies according to the guidelines from the Ministry of Defense and General Staff of the ARM, as support of the activities in the defense sector. It also accomplishes other tasks in the area of university education, which are in line with the law for university education. Military Academy also has the lead in introducing the modern computer technology in the field of education and training and enables the use of these technologies to the other subjects in the defense sector.

CURRICULA OF MILITARY EDUCATION

The new military institutions need soldiers who use their brains, can deal with a diversity of cultures, and can tolerate ambiguity, take initiative and ask questions, even to the point of questioning authority¹. The military of the twenty-first century, more than ever, will need leaders able to anticipate change, to deal with uncertainty, to present ideas, to communicate vision, and to lead organizational change. There are no ready solutions. Some changes in the emphasis of the curriculum of military academies and colleges, however, cannot be postponed.

In the Information Age security environment, the first requirement for the curricula is to ensure that military students do not presume to know who their future opponents or coalition partners will be. This appreciation for uncertainty is the beginning of wisdom in the post-Cold War era². Students must understand more than their predecessors about economics,

¹ See more in Toffler 1993.

² See more in Rokke, 1995.

technologies, and diverse cultures to make sound judgments. The emphasis of military curricula is shifting from preparing managers to preparing leaders.

In this context we can examine the cognitive difference in the 'Managers vs. Leaders' dilemma. Managers function in the lower cognitive domain of knowledge, comprehension, and application. Leaders function in the higher cognitive domain of analysis, synthesis, and evaluation. Managers are people who do things right and leaders are people who do the right thing. The difference may be summarized as activities of vision and judgment – *effectiveness*, versus activities of mastering routines – *efficiency*. Capozzoli (1995) provides the following definitions¹:

Knowledge is the ability to remember facts, terms, concepts, theories and structures.

Comprehension is the ability to translate communication and the ability to interpret facts, terms, concepts, theories and structures.

Application is the ability to apply facts, concepts, theories and structures.

Analysis is the ability to recognize unstated assumptions; the ability to recognize which facts or assumptions are essential to a situation; the ability to distinguish relevant and irrelevant statements in a situation; the ability to identify complex relationships.

Synthesis is the ability to put together elements and parts from different sources to form a whole; the ability to identify patterns or relationships in information and events; the ability to convey meaning by developing a concept, model, or theme; the ability to develop creative solutions and new insights into problems; the ability to tap relevant knowledge and experience without much conscious awareness.

Evaluation is the ability to identify and appraise judgments and values that are involved in a course of action; the ability to apply sophisticated criteria (the highest known standards) to the judging of the taken actions.

The dilemma in the military education how to provide balance between the academic and the specialized education, as well as between the humanitarian and the technical education, is not new. In the Information Age, however, the initial educational phase of preparation of a specialist is quickly rendered obsolete by the rate of progress. It is not only special skills and knowledge we should be seeking but a higher level of abstract thinking which can be acquired by university academic education and a system of life-long learning².

¹ See more in Capozzoli, 1995.

² See more in Gilman and Herold, 1993)

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The educational processes in the Military Academy are accomplished through three cycles of university studies, and it will encompass continuous professional education for the officer core of the Army, mainly for the needs of the Defense System, and for the System for Crisis Management and the System for Protection and Rescue.

The three cycles of university studies are according to the Bologna Convention and European Credit Transfer System (ECTS) - university studies in duration of 4+1+3 years. The University diploma of graduate studies of the Military Academy will be verified in the country, which provides cadets and students with relevant positions for further education within the education system of Republic of Macedonia and other foreign countries members of Bologna process.

The curriculum for the I cycle (undergraduate study in duration of 4 years) will provide theoretical and practical education. This includes: fundamental knowledge in the social, natural, technical and military sciences (security and defense systems, security and defense policy, world affairs, civil defense, strategy, operations, tactics, war fighting techniques, military equipment and technology), broader general and technical culture for further education, computer knowledge, good foreign language training (English + other optional language), high military knowledge and skills, higher level of military expertise at tactical level, physical fitness and mental readiness, professional training for basic leadership responsibilities, etc. The curriculum for undergraduate studies includes academic disciplines, modules of military training and physical education. The first two years of education are general, and the last two years are specific (infantry, artillery, armor, signals, engineer, air defense, pilots, NBC, and for specific duties in crisis management, disaster relief, and protection and rescue). This will provide all the necessary preparation for the first commanding duty - platoon commander, and other duties. Military Academy will educate highly motivated, physically and military prepared cadets and students that will be challenged with all the dangers of asymmetrical and other threats, as well as organized crime, terrorism, WMD, etc.

PERMANENT CONTINUOUS EDUCATION DURING THE CARRIER

In the Information Age, formal schooling provides only the first step in a lifelong process of learning and utilizing technology. Learning is truly becoming a life-long endeavour rather than an activity that ends with formal schooling. Thus, students must learn 'how to learn' which means being able to collect, organize, analyze, evaluate, and communicate all types of

information. Military students must become active problem solvers and collaborative learners. They must also learn to become effective users of information technology¹.

Their education must be continuous, combined with training, coherent with the whole process of professional development and career planning. A long educational process or training apart from a real practice is not the remedy. The Information Age technology provides means for everyone to learn what they need, at a time they find convenient, from the place they are, in the way they prefer. Furthermore, the new technologies will greatly facilitate comparison shopping for education and will contribute to the emergence of a reliable education assessment system².

A prerequisite is the openness of military academies and colleges to each other, toward civilian universities, as well as toward foreign and international military and civilian colleges.

In addition to the primary level of education, Military Academy is responsible for continuous professional military education of officers, which represents the system of gradual increase of knowledge, skills and perspective throughout their career. The goal is to produce a quality officer core for the ARM with talent, courage, self-esteem, understanding and vision for future military tasks and ability to make right decisions at critical moments. Bearing in mind that ARM always has to be prepared to assess its duties and responsibilities stated in the Constitution, the officer core has to go through permanent training for functional roles as well as adaptation to newly developed situations and changes in accordance with high demanding tasks. This type of educational system has to be dynamic, progressive and integrated throughout the officer career.

Within the framework of continuous professional education for the officer core of the ARM, Military Academy will develop a set of courses at intermediate level (for the duties of company commanders and staff duties for battalion level). At this level Military Academy offers Company commander course (with duration of 1 month) and Battalion staff officer course S-1 through S-7 (with duration of 1,5 months). The aim of the Company commander course is to produce officers for the appropriate positions while the second one is aimed to prepare the officers for battalion staff positions. The courses are organized and conducted by the Military Academy in cooperation with Training command. The intermediate level of education is not a specific branch and its aim is to provide the officers that are promoted to O-3 (captain rank) with all the leader skills, tactics and techniques necessary for commanding position on company level as well as

¹ See more in Houston, 1995.

² See more in Jacobsen, 1993

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battalion staff positions. One should also be able to understand all the principles of joint military operations that include oversight of resources, and restrains and use of doctrine at this level of operations. At this level of education, there is a shift from officer skills focused on training and missions on lower tactical level to development of analytical skills pointed to planning and evaluation of more complex military missions.

The next level of continuous professional education for the officers is the advanced level. In this level, the Military Academy is organizing university studies for the II and III cycle (master and doctor of science studies) in the field of military science, defense and security. The aim is to improve the officer knowledge in military science even further, and to prepare the officers for command and staff positions at higher levels. Selected officers will be developing values and standards to professionally carry out military and nonmilitary operations during peacetime, conflicts and war. Throughout the studies, officers will develop greater intellectual and analytical knowledge and skills.

At this level, the officers learn procedures, tactics, scenarios and doctrines for joint tactical units at a battalion level and higher, and at the same time they are trained for staff positions at a brigade level and above, and command positions at a battalion level. Further, at this level the officer develops skills to analyze and solve different military problems, to work as a part of a team at the unit staff, which includes full understanding of complex military operations, organization and procedures for the mission. This form of education is organized within the II cycle of university studies, as a Specialization for command and staff duties. Specialization will be organized also for the need of the employees in the system for crisis management and disaster relief.

NEW EDUCATIONAL METHODOLOGIES BASED ON INFORMATION TECHNOLOGY

The development in information technology is changing the modes of the military and will train and plan for future military operations. Advances in technology are hardly new phenomena. Recently, however, breakthroughs related to warfare have occurred with greater frequency, more substantial impact on quality versus quantity tradeoffs, and increased organizational implications. The information explosion and the changing way in which military organizations function, both during peace and war, must be reflected in military curricula.

The Information Age technology and its all-encompassing influence not only demand changes, but also provide tools facilitating life-long education. Today's distance learning, multimedia, virtual reality, and

telepresence concept allow developing of a new concept of officer education and a relevant restructuring of the military educational system.

Technology enables us to facilitate learning in new and innovative ways and to provide access to the wealth of information available. Schools, academies and colleges can serve as the catalyst for these changes. Technology cannot substitute for good teachers but can allow a teacher to facilitate and tailor learning for individual students. The emerging concept requires redefining the way military schools are organized and what occurs within the school, as well as revision of how teachers teach and students learn. Technology enables restructuring of the military educational system by¹:

- providing new and more powerful ways for students to receive, understand, and manipulate information;
- enabling students to become active learners;
- escaping the boundaries of a fixed location school to facilitate interaction with people and events in faraway places;
- encouraging international, multi-disciplinary project-oriented education;
- promoting cooperative learning;
- allowing both independent and distance learning opportunities;
- matching teaching methodologies to student's learning styles and preferences;
- developing new ways of assessing student performance.

Advances in simulation technology have enabled an increasing amount of training and instructions to be conducted on training simulations instead on real systems. Nowadays, practically no military training programs exist without some form of simulation or use of a simulator. The simulation of combat, or a wargame, is used more and more extensively to reduce cost and maintain a trained force. It is an inexpensive alternative to live training exercises².

Interoperability towards NATO standards for conducting Combined Military Operations and Operations Other Than War (like Peace Support Operations), require basic education, training and exercising based on common procedures and standards. Using Modelling and Simulation (M&S) for conducting Computer Aided Exercises (CAX) in which those standards and procedures are incorporated can significantly improve training of the multinational staff and its ability to conduct joint and combined operations.

Computer Aided Exercises will further become more and more common in all multinational training activities organized by NATO. This

¹ See more in Houston, 1995.

² See more in Coppieters, 2002.

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means that implementing modeling and simulations in military education and training will help every NATO aspirant country to make the necessary progress in the preparation for NATO integration. We believe that this will help the Republic of Macedonia in the near future to possess increased capability for compatible and more effective planning and operation of its forces.

Partner nations need to establish and improve infrastructures and capabilities for modeling and simulations and Advanced Distributed Learning (ADL) in order to provide education and national training, and also capability to take part in NATO/PfP training/exercises. In order to achieve true interoperability with NATO it is not sufficient to provide only language training and formal staff-procedure training like the courses at schools and training centers. Having a capability and being able to use simulations in conducting Computer Aided Exercises can be very effective. In this context, it is very important to understand the need that besides training to participate in NATO led operations they need to conduct national training using Computer Aided Exercises.

CONCLUSION

Based on the determination of the Republic of Macedonia for NATO and EU membership has emerged the need for transformation of officer education and training system, and in line with that redefinition of the role and responsibilities of the Military Academy. Macedonian Military academy is determined to be top military educational and scientific institution comparable to similar institutions in the world.

The emphasis of the education and training of military personnel should be put on critical observance, value orientation towards professionalism, ethics, and cooperation, good academic background and their preparation for participation in international missions, coalition warfare, peacekeeping and peacemaking missions. This requires from the military student a qualitative new level of ethnic, religious, cultural, ecological, and human rights awareness.

We are aware that the key for achieving the necessary standards in education and training is in development of teaching personnel and equipping the Military Academy with teaching aids and facilities similar to military academies in the developed countries. Cooperation with similar institutions in NATO and partner countries has very an important role in further development of the Macedonian Military Academy.

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РЕФОРМИТЕ ВО СИСТЕМОТ ЗА ВОЕНО ОБРАЗОВАНИЕ КАКО ДЕЛ ОД ЕВРО-АТЛАНСКИТЕ ИНТЕГРАТИВНИ ПРОЦЕСИ

Апстракт: Во рамките на трудот ги евалуираме последните реформи во системот за воено образование во Република Македонија. Врз база на определбите за членство во НАТО и ЕУ, се појави потреба за трансформација на военото образование и обуката, а во таа насока и редефинирање на улогата и одговорностите на Воената академија. Во согласност со ова, Воената академија ќе едуцира, обучува и оспособува офицери за потребите на Армијата, а исто така ќе едуцира и персонал за потребите на Системот за управување со кризи и Системот за заштита и спасување во Република Македонија. Целта е да се едуцираат лидери со модерни опити и воени знаења, вештини и техники. Почнувајќи од сумирање на барањата за воена едукација и условите во кои овој систем се развива, заедно со влијанијата на модерниот начин на војување се согледуваат во рамките на трудот. Дадена е евалуација на курикулумот за воена едукација, проследено со потребата за перманентна континуирана едукација во текот на кариерата. Исто така, се евалуира потребата за имплементација на модерни образовни технологии и методологии засновани на информатичките технологии во образованието.

Клучни зборови: образование, модерно војување, курикулум, интеграција, информатички технологии, моделирање и симулации, напредно дистрибуирано учење.