DEVELOPMENT OF PROFESSIONAL COMPETENCES OF FUTURE OFFICERS FOR THE TROOPS (FORCES) SUPPORT SERVICES

РОЗВИТОК ФАХОВИХ КОМПЕТЕНТНОСТЕЙ МАЙБУТНІХ ОФІЦЕРІВ СЛУЖБ ЗАБЕЗПЕЧЕННЯ ВІЙСЬК (СИЛ)

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The article is devoted to one of the current problems of high-quality training of future officers for the Armed Forces of Ukraine – the formation and development of their professional competencies during their studies at higher military educational institutions. The integrative nature of professional (subject) competencies, the components of which are local (partial) competencies corresponding to certain educational components of the training program for future officers of this specialty, has been proven. This complicates the process of developing professional competencies and requires their preliminary differentiation into local competencies and the development of a process algorithm.

Modeling the algorithm for the development of professional (subject) competencies of future officers of the support of troops (forces) was carried out using two opposing approaches – deductive and inductive, which served as components of the algorithm construction in the forward and reverse directions. The deductive component of the algorithm was built in a top-down direction: from general – professional (subject) competence, the development of which is provided by a certain educational component (academic discipline, course project, course work, practice, qualification work, etc.), to specific – local competences, the development of which is provided by the components of this educational component (for example, modules and topics of the academic discipline).The inductive component of the algorithm was built in a "bottom-up" direction, that is, according to the stages of the educational process of training future officers of the military support forces in the military higher educational institutions – a vertical sequence of courses and semesters of study during which this educational component is implemented. Therefore, the inductive component of the algorithm was built from specific (local competencies) through the construction of a «tree of local competencies» corresponding to the components of this educational component (for example, modules of an educational discipline), to general – professional (subject) competence, which is the top of the «tree of local competencies» and the development of which is ensured by this educational component (for example, an academic discipline) according to the educational and professional training program for future officers of the support of troops (forces). A specific example of modeling the algorithm for the development of professional (subject) competence for the educational component of the engineering part of the general professional training cycle of future support officers of the Armed Forces of Ukraine is given.

Key words: *development of professional (subject) competencies, future officers, algorithm, deductive and inductive components of the algorithm, higher military educational institution.*

Стаття присвячена одній із актуальних проблем якісної підготовки майбутніх офіцерів Збройних сил України – формуванню і розвитку їхніх фахових компетентностей під час навчання у вищих військових навчальних закладах. Доведено інтегративний характер фахових (предметних) компетентностей, складовими яких є локальні (часткові) компетенції, відповідні певним освітнім компонентам програми підготовки майбутніх офіцерів даного фаху. Це ускладнює процес розвитку фахових компетентностей і потребує їх попередньої диференціації на локальні компетенції та розробки алгоритму процесу.

Моделювання алгоритму розвитку фахових (предметних) компетентностей майбутніх офіцерів забезпечення військ (сил) проводилось за двома протилежними підходами – дедуктивному та індуктивному, які виступали складниками побудови алгоритму у прямому і зворотному напрямах. Дедуктивний складник алгоритму будувався за напрямом «згори вниз»: від загального – фахової (предметної) компетентності, розвиток якої забезпечує певний освітній компонент (навчальна дисципліна, курсовий проєкт, курсова робота, практика, кваліфікаційна робота тощо), до конкретного – локальних компетенцій, розвиток яких забезпечується складовими цього освітнього компоненту (наприклад, модулями і темами навчальної дисципліни). Індуктивний складник алгоритму будувався за напрямом «знизу вгору», тобто за етапами навчально-виховного процесу підготовки у ВВНЗ майбутніх офіцерів забезпечення військ (сил), – вертикальною послідовністю курсів і семестрів навчання, впродовж яких реалізується даний освітній компонент. Отже, індуктивний складник алгоритму будувався від конкретного (локальних компетенцій) через побудову «дерева локальних компетенцій», відповідних складовим даного освітнього компоненту (наприклад, модулям навчальної дисципліни), до загального – фахової (предметної) компетентності, яка є верхівкою «дерева локальних компетенцій» і розвиток якої забезпечує цей освітній компонент (наприклад, навчальна дисципліна) згідно освітньо-професійній програмі підготовки майбутніх офіцерів забезпечення військ (сил). Наведено конкретний приклад моделювання алгоритму розвитку фахової (предметної) компетентності для освітнього компоненту інженерної складової циклу загально-професійної підготовки майбутніх офіцерів забезпечення військ (сил) ЗСУ.

Ключові слова: *розвиток фахових (предметних) компетентностей, майбутні офіцери, алгоритм, дедуктивний та індуктивний складники алгоритму, вищий військовий навчальний заклад.*

Problem statement. In the current period of the unfolding Russian-Ukrainian war and the urgent need to ensure national security in our country, the problem of training professionally competent officers for the Armed Forces of Ukraine (AFU), in particular, officers providing support for the troops (forces) of the AFU, is particularly acute. The relevance of the formation and development of professional competencies of future officers during training in higher military educational institutions (HMEs) is confirmed by the state's requests for the quality of training of future military specialists, identified among other priority tasks of the transformation of military education in the new edition of the Concept of the Transformation of the Military Education System, which, among other measures, provides for the implementation of an exhaustive list of tasks for the period until 2032 and monitoring their implementation, in particular «...constant updating of the content of military education in order for military specialists to acquire new competencies in the training and use of troops (forces)...» [13].

The scientific and methodological collection «Education of Ukraine under martial law. Innovative and project activities» also states that the implementation of education standards requires the implementation of fundamentally new approaches and tools that are «based on a personally oriented and competency-based approach to learning» [15, c. 18].

Competence, according to the dictionary of foreign words, means awareness, information, and authority. Most often, the concept of «competence» is defined as the ability and readiness of an individual to perform productive activities in a certain field based on knowledge, skills, abilities and experience, values, and personal qualities.

The relevance of competence development is also evidenced by international events. For example, the project «Identification and Selection of Key Competencies», which was carried out by the intergovernmental Organization for Economic Cooperation and Development (OECD) and the national institutes of educational statistics of Switzerland and the USA. And also the fact that the European Parliament and the Council of the European Union approved the Framework Programme for updated key competences for lifelong learning back in 2018 [1].

Analysis of recent research and publications. Analysis of scientific literature shows that the problems of the process of formation and development of professional competencies of future specialists in various fields of activity have been studied by many researchers (A. Vahis [3], S. Goncharenko [7], N. Gronlund [8], G. Yel'nykova [10], V. Kovalchuk [12], T. Lychova [14], N. Nychkalo [7], etc.), in particular in the field of military education (O. Bohdanyuk [2], V. Volovnyk [4; 5], A. Galimov [6], O. Yevsyukov [9], O. Masliy [4], V. Svistun [16], O. Chernyavsky [17], V. Yagupov [18, 19], etc.)

The authors investigated various aspects of the development of professional competencies of future specialists from different positions, in particular: as a set of knowledge and skills to analyze, predict the consequences of activities, use information, which in the complex ensures effective professional activity [7, p. 149]; as a synergistic process that encompasses a set of competencies: general scientific, social, personal, instrumental and professional; as the ability to solve problems in the professional sphere, based on the independent work of students [3, pp. 5-7]; as the basis for assessing students' academic achievements [16, pp. 8-9]; as the basis for high-quality training for professional activity [1]; as not only a set of knowledge, skills, abilities, but also the readiness to act in complex, unpredictable professional situations, and the main thing is the attitude to the profession as a value [10]; as a professional-personal, socially significant qualitative characteristic of a future officer, his integrative property, which is oriented towards continuous self-improvement and self-education [9]; as a basic, integral quality, which is manifested in a high level of ability to perform combat missions and military service duties [17, p. 112]; as a predicted result of an officer's professional education, the totality of the individual's acquired opportunities for professional activity [6, p. 35]; as a result of society's order for the content and quality of training of its citizens for each profession (field of activity) in the form of a list of competencies and competences [4, p. 138]; as a multi-component formation, the content of the components of which are managerial values and motivation, knowledge, skills, abilities, professionally important qualities, professional subjectivity in the military management system [16, c. 237]; as a methodological aspect of substantiating the content and structure of managerial competence of officials of the personnel management bodies of the Ministry of Defense and the Armed Forces of Ukraine [15, pp. 230-233].

Common to these studies is the integrative nature of professional competencies. Therefore, this affects the process of their development, complicates it and requires a certain preliminary differentiation of professional competencies, the allocation of their components (local competencies) and the construction of a sequence (algorithm) of their development, which is especially important for the training of future officers in all types of support for troops (forces) in the current conditions of martial law in the country.

However, the problem of developing professional competencies of future support officers of the Armed Forces of Ukraine in order to ensure their high-quality professional training in the educational process of higher educational institutions during martial law in the country has not yet been separately studied.

Therefore, the **purpose and objective** of this article is to study the process of forming and

developing professional competencies of future officers of the Armed Forces of Ukraine and to build an algorithm for their development, which should ensure their high-quality professional training in the modern conditions of martial law in our country.

Presentation of the main research material. Based on the analysis of scientific sources [4, p. 139-140; 18, p. 25-26], based on our own experience and taking into account the objectives of this study, we assume that professional (subject, special) competence is a predetermined requirement (norm) for the educational and professional training of a future officer, necessary for his high-quality productive activity in a certain area outlined by the corresponding educational component of the officer training program of this specialty (academic discipline, course project, course work, qualification work, internship program, etc.). Professional competence involves the mastery and possession by a future officer of relevant local competencies, which, in turn, are requirements for the training of a future officer for his high-quality activity in areas outlined by specific components of the relevant educational component of the training program (for example, a separate section, module of an academic discipline, internship program, etc.). Professional competence also implies sufficient experience in this field, that is, experience in applying local competencies, and acts as a personal quality (set of qualities) of a future officer that has already taken place, that is, is the result of a certain educational and practical training.

The Law of Ukraine «On Higher Education» defines that «competence is a dynamic combination of knowledge, skills and practical abilities, ways of thinking, professional, ideological and civic qualities, moral and ethical values, which determines a person's ability to successfully carry out professional and further educational activities and is the result of training at a certain level of higher education» [11, Article 1].

Given this, the researchers concluded that it is possible to establish the formation of the professional competence of a future support officer of the Armed Forces of Ukraine only at the end of his training at the appropriate level of higher education (bachelor, master) [4, p. 139].

However, in our opinion, during the various stages of training of future officers of the Armed Forces of Ukraine in the Higher Military Educational Institutions, it is advisable and even necessary to establish the formation of their local competencies, which are components of professional (special, subject) competencies obtained as a result of their differentiation, in order to provide feedback in the process of training future officers.

Therefore, solving the problem of developing professional competencies of future officers providing troops (forces) during martial law requires, first of all, a detailed analysis of the components of educational and professional programs (EPP) for training tactical-level officers in various specialties related to providing troops (road transport, transport logistics, fuel and lubricants, clothing, food and other types of support), differentiation of the professional (special, subject) competencies specified in the EPP into local competencies in accordance with the modules of educational components and construction on this basis of an algorithm for the formation and development of professional competencies, which will become the scientific basis for the methodology for the development of professional competencies of future officers of the Armed Forces of Ukraine.

The algorithm for the formation and development of professional (subject, special) competencies of future officers of the Armed Forces of Ukraine provides, in our opinion, the consistent use of two opposing approaches or components of the algorithm – deductive (i.e. from general to partial, local, specific) and inductive (i.e. vice versa, from specific to general), The components of the algorithm are built in opposite directions, respectively «top-down» (deductive) and «bottom-up» (inductive), are executed sequentially, and each of them involves a certain number of steps.

The deductive component of the algorithm for the formation of professional (subject) competencies of future officers of the support of troops (forces) primarily involves the differentiation (division) of the educational component (as a general one) into its constituent parts: modules, sections and topics (as partial, local). Professional (subject) competencies specified in the EPP for each mandatory and elective educational component (academic discipline, course project, course work, practice, qualification work, etc.), as well as general ones, are differentiated (divided) into local competencies corresponding to modules, sections and topics (as partial, local) of this educational component. This occurs in parallel with the division of an educational component (e.g., a discipline) into modules, sections, and topics. This differentiation is carried out by teachers and leaders of all the above-mentioned educational components.

Let's give a specific example. Professional competencies, the development of which is provided by the educational components of the engineering part of the cycle of general and general professional training of future officers according to the EPP, for example, such as "Engineering Mechanics" or "Fundamentals of Engineering for Providing Troops (Forces)", should be divided (as a general matter) into local competencies, and the content of the specified disciplines (as a general matter) – into such modules or sections (as partial, local), such as: theoretical mechanics, materials science, theory of mechanisms and machines, technology of structural materials, strength of materials, machine parts, etc. And

accordingly, for each local module, establish a local component of professional (subject) competence – local competence, the formation and development of which in future officers is provided by this module.

So, let's be specific. For example, if the EPP for training future officers for the educational component (EC) «Engineering Mechanics» defines the professional (subject) competence «Ability to evaluate and ensure the quality of work on technical training and repair of weapons and military equipment (WME)», then taking into account the learning outcomes specified in the OPP for this educational component, namely: «Apply knowledge of the structure and properties of materials, the basics of reliability and operability of WME mechanisms during their repair», for the module (section) «Materials Science» it is logical to define the local competence: «Ability to apply knowledge of the structure and properties of materials to ensure the quality of work on technical preparation and repair of WME». Similarly, local competencies corresponding to other modules (sections) of this educational component are determined.

In this way, the correspondence of all components of professional (subject) competencies – local competencies – determined by a deductive method to the components (modules and sections) of this educational component is established.

The inductive component of the algorithm for developing professional (subject) competencies of future officers (from local, specific to general) involves building a “tree of local competencies” along the vertical of training for courses I – II – III – IV and semesters of study, respectively, for each educational component of the EPP.

For example, the «tree of local competencies» for the educational component «Engineering Mechanics» provides for approximately the following arrangement of modules (sections) and corresponding local competencies (which are determined by teachers according to the section): 2nd year 3rd semester: theoretical mechanics, 2nd year 4th semester: theory of mechanisms and machines, materials science, 3rd year 5th semester: resistance of materials, 3rd year 6th semester: technology of structural materials, machine parts.

The top of the «tree of local competencies» is professional (subject) competence, the development of which, according to the EPP, is provided by a specific educational component, for example, an academic discipline.

Conclusions. The process of formation and development of professional competencies of future support officers of the Armed Forces of Ukraine has been studied.

Based on the analysis of scientific sources, the integrative nature of professional competencies has been established, which affects the process of their development, complicates it and requires a certain preliminary differentiation of professional competencies and the allocation of their local competencies.

An algorithm for developing professional (subject) competencies of future support officers of the Armed Forces of Ukraine is proposed, which should ensure their high-quality professional training in the modern conditions of martial law in our country.

Modeling the algorithm for the development of professional (subject) competencies of future officers was carried out using two opposing approaches – deductive and inductive, which act as components of the algorithm construction in the forward and reverse directions.

The deductive component of the algorithm is built in a «top-down» direction: from general to professional (subject) competence, the development of which is provided by a certain educational component (academic discipline, course project, course work, practice, qualification work, etc.) to a specific – a number of local competencies, the development of which is ensured by the components of this educational component (for example, modules and topics of this discipline).

The inductive component of the algorithm is built in a «bottom-up» direction, that is, according to the stages of the educational process of training future officers of the troops (forces) in the military educational institutions – a vertical sequence of courses and semesters of study, during which this educational component is implemented (this discipline is taught), from specific (local competencies) through the construction of a «tree of local competencies» corresponding to the components of a given educational component (modules of a given discipline), to general – professional (subject) competence, the development of which is provided by this educational component (academic discipline) according to the educational and professional program for training future officers of the support of troops (forces), and which is the top of the «tree of local competencies».

A specific example of modeling the algorithm for the development of professional (subject) competence for the educational component of the engineering part of the cycle of general and general professional training of future support officers of the Armed Forces of Ukraine is given.

Further prospects in this direction are seen in the development of a comprehensive methodology for developing professional competencies of future officers of the support of troops (forces) and its experimental study in the educational process of military universities during martial law in the country.

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