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A COMPETENCY-BASED APPROACH AS A STRATEGY FOR UPDATING MODERN TRAINING OF FUTURE NATURAL SCIENCES BACHELORS

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Abstract. *Transformation of modern society is enhancing the demand for training a competitive future specialist. In this regard, the competency-based paradigm of training future teachers, which is based on the purposeful orientation of the educational process to the result in the activity dimension, is of particular importance. At the same time, competency, as a new dimension of future teachers' professionalism, involves not only a set of acquired knowledge and skills, but their practical implementation to solve non-standard situations.*

Considering nowadays, it is the natural science competency that is the basic one among the indicators of person's education, and which should be mastered by a graduate of the secondary education institution as a result of studying the educational branch of "Natural History". Therefore, the competency-based paradigm of future natural sciences bachelors' professional training is of particular importance.

Keywords: *New Ukrainian school, quality of education, competency, competency-based paradigm of education, future bachelors of natural sciences.*

Introduction. The social purpose of the teacher largely determines the quality of his professional training and features of work. At the present stage of the New Ukrainian School formation, the teacher is a key figure in the implementation of the state policy on personal development, in the domination of personal and professional influence on the formation of students' key competencies, in the introduction of democratic principles in the practice of education.

Considering Ukraine's aspiration to become a state of the newest technologies, the priority is to improve the quality of education, including the natural sciences. It should be noted that all legislative and normative documents of modern Ukrainian education (the Law of Ukraine "On Education", the National Doctrine of Development of Ukrainian Education in the 21st Century, the Conception of the New Ukrainian School, the State Standard of General Secondary Education, etc.) create the basis for the reorientation of natural education to formation of secondary school students, and in particular high school students' natural science competency. In this context, the quality of students' natural science training is both a strategy and, at the same time, a criterion for their intellectual development as well as the result of the educational process.

Undoubtedly, fundamental science education is one of the main factors of personal development and needs to be updated in accordance with the contemporary demands of society. At the same time, natural science competency as an integrated reflection of a person's level of education, makes it possible to successfully apply

natural knowledge in life. Consequently, the reorientation of school science education towards building competency in the natural sciences and technologies prompts a demand for the professionalism and creativity of a teacher able to successfully work in modern educational systems, given the priority of forming a general European educational space.

In this context, the competency of professional training of future natural sciences bachelors as subjects of personal and professional growth, who are capable of constantly expanding and updating the subject areas of their professional activity, is of particular importance.

A brief outline of publications on the topic. The analysis of scientific studies shows that the present stage of higher education development is marked by the increased attention of researchers to the deepening of scientific ideas about the ways of improving the professional training of future natural disciplines teachers, in particular, those of biology (O. Hediss, H. Yelnikova, et al.). It is noteworthy that modern researchers recognize the constructive approaches that take into account the current trends in the development of natural education.

The problem of the professional training of biology teachers for particular activities on the basis of competency-based approach was actively studied and investigated by domestic (M. Hryniova, N. Hrytsai, S. Ivanova, Ya. Lohvinova, T. Myroniuk, S. Riabchenko, I. Fursa, I. Schmygol) and foreign (A. Chaldynbaieva, A. Asenova, Mary D. Rogick, Patricia C. Dung, Panagiotis K. Stasinakis, Kyriacos Athanasiou) scholars. The peculiarities of training future teachers of the natural field in the conditions of high school profiling were the subject of study by V. Onipko, L. Lypova, M. Martyniuk, R. Melnychenko, I. Sotnichenko, Ya. Fruktova et al. It is important to emphasize that the increase in the demand for a competent graduate necessitated the development of conceptions for the professional training of future biology teachers (N. Hrytsai, I. Koreneva).

The analyzed scientific works, first of all, address the problems of forming different aspects of developing key and subject competencies of future biology teachers and are oriented to the subject area of their professional activity. At the same time, it should be noted that the problem of training future bachelors of natural sciences on the basis of the competency-based approach to teaching an integrated course “Natural Sciences” in the New Ukrainian School is still almost unexplored.

Instead, according to European standards, modern teachers are expected to have, first of all, deep professional knowledge in the subject of teaching, the ability to teach effectively in heterogeneous classes with students from different cultural backgrounds, willingness to realize their own scientific potential in the process of creative solving of professional tasks.

In this regard, it is quite clear that in the context of the strengthening of European vectors for the transformation of the scientific and educational content, the problem of training future bachelors of science in the parameters of European higher education standards becomes especially relevant.

The purpose of the article is to determine the features of the competency-based approach as a resource for enriching the scientific and professional training of future science teachers.

Materials and methods. To solve these problems, mainly theoretical (scientific literature analysis) and empirical methods (pedagogical observation), as well as comparison, generalization of data on the research problem based on the study of scientific psychological and pedagogical and methodical literature were used.

Results and Discussion. Undoubtedly, the leading role in the formation of students' natural science competency in the conditions of profiling the New Ukrainian School belongs precisely to the teacher of the integrated course "Natural Sciences". This reinforces the need to review the essence of professional training of the future bachelors of science as teachers of a new formation. At the same time, we share the opinion of those researchers who believe that the modern paradigm of professional training of the future natural cycle teacher should be aimed at the formation of a competent personality, the result of which is the willingness and ability of a person to realize their knowledge and experience in non-standard conditions, to realize the importance of constant self-improvement [5].

It should be noted that in accordance with the requirements of the State Standard of Basic and Complete General Secondary Education, the purpose of the natural science education field is to form students' natural science competency as a compulsory component of the general personality culture and the development of its creative potential. Therefore, according to the current normative document, it is the natural literacy of the graduate that is an indicator of understanding the holistic picture of the world, which allows its further development, revealing independence and active public position.

That is why it is important to create an approach to comprehending and understanding competencies that will help implement and use them in the educational process of today.

The reorientation of the natural sciences education to a competency-based science education reinforces the requirements for the quality of professional training of a future natural sciences bachelor capable of providing an educational process in the subject. We fully agree with V. Ilchenko's opinion that in the current circumstances, in order to ensure specialists' competitiveness and effective activity, future bachelors of natural sciences should master the methodological system of competent teaching high school students integrated natural science, as well as to correlate professional activity with the perspectives of stable mankind development [2].

On the other hand, M. Sadovyi characterizes the teacher who is able to teach the natural sciences course in high school as a teacher and specialist who quickly processes a large amount of scientific, professional and methodical information, makes socially responsible decisions, anticipates their consequences [8]. It is these requirements that the modern paradigm of a competency-based approach to training a teacher of a new formation is intended to meet. In this regard, such leading definitions of the subject matter of our study as "competency" and "competency-based approach" become relevant.

We would like to emphasize that the basic concept of the competency-based approach is the concept of competency, the contextual definition of which modern Ukrainian comparativism seeks to align with the views of the European scientific

community. Thus, competency characterizes the ability of future specialists to realize their human potential in professional activity. According to a short explanatory dictionary of the Ukrainian language, a competent person is someone who is knowledgeable in a particular field or is authorized to decide anything. According to O. Dubaseniuk, competency is an integrated characteristic of personality traits, the result of training a graduate of a higher educational institution, expressed in the readiness for the implementation of personality-oriented activities aimed at solving specific professional problems [7, p. 40]. It should be noted that the obtained results are first and foremost an indicator of the quality of education.

It should be noted that both domestic (O. Savchenko, N. Bibik) and foreign (A. Khutorskyi, J. Raven) scholars are united in their views on the dynamic structure of personality competency, the dependence of which is subordinated to society's priorities and educational goals.

In his turn, I. Ziaziun describes the phenomenon of competency as personal quality, a generalizing category of which is the ability to perform activities in a qualified manner. In particular, I. Zymnia understands competency as a set of knowledge, skills and practical experience, which is an intellectually and personally conditioned socio-professional characteristic of a person.

Thus, summarizing the achievements of domestic and foreign scientists in terms of terminological notions of competency, we understand this quality of the future bachelors of science as the willingness to realize their potential for successful activity in the professional and social sphere realizing their personal responsibility for its results, as well as the need for continuous personal self-improvement.

Against this background, it is obvious that the introduction of a competency-based approach to the system of training future bachelors of science requires the transformation of the content of professionally-oriented education aimed at the final result of the educational process – the acquisition of competencies by students. That is why it is important to introduce such an approach to the formation of practice-oriented competencies of the future science teacher which will help introduce and use them in the context of the New Ukrainian School.

Thus, recently there has been a lively debate among the Ukrainian scientific community concerning the introduction of a competency-based approach to the national educational system. According to N. Sosnytska, a competency-based approach in the process of professional training claims to be a conceptual framework of educational policy implemented by both states and influential international organizations as it combines personal, activity-based, technological and other approaches and acts in a certain way as an integrated approach [9, p. 1]. Based on the National Glossary, a competency-based approach is a key methodological tool for implementing the European vector of higher education in Ukraine, based on student-centered learning.

In the context of the competency-based approach, the professional training of future bachelors of science is characterized by an activity that underlies a diverse personal experience. In addition, the implementation of the competency-based approach changes the object-subject relations in the educational space.

The introduction of the very competency-based approach as a means of modernizing the future teacher's professional training, determines the focus of the educational process on the choice of the content of professionally oriented disciplines that ensure the formation and development of key and subject competencies.

It should be noted that the modern European educational systems are covered by the ideas of a competency-based approach at all stages of continuing education, which is based on the mobilization of knowledge and practical experience, the prospect of which is the high readiness of the graduate to be successful in various fields.

Investigating the scientific and theoretical component of the professional training of future natural cycle teachers in the parameters of European higher education standards, we can conclude that the perspective of the competency-based approach is that it enables to train the graduate for future professional activity and requires teacher's appropriate high level competency. Confirmation of this position is found in the scientific works of O. Dubaseniuk who understands the competency-based approach as a new strategy of reorienting the process to the result of education in the activity dimension, provision of the future specialist's ability to respond to new labor market demands [7, p. 52].

In view of nowadays, essential feature of introducing the competency-based approach to the training of new formation teachers is the ability to predict the outcome of the educational process from the standpoint of society's requests, as well as the focus of the educational process on the result in the activity dimension. In addition, the competency-based nature of future teachers' professional training ensures the quality of the process of teaching students at all stages and educational levels.

In the context of our study, the introduction of the competency-based approach is more widely reflected in the works of S. Liulenko, M. Sadovyi, who consider it as a key innovative idea of modern education, including the pedagogical one. In particular, according to S. Liulenko, the competency-based content of training future teachers of the natural cycle facilitates the reorientation of the educational process to the formation of qualities necessary for creative activity, constant assimilation of new information, self-development and the ability to change rapidly under the influence of new challenges of post-industrial society.

That is why competency as the ability to take real action, the potential willingness to solve professional tasks becomes the central category of educational modernization of the 21st century.

Conclusions. Thus, the analysis of the competency-based paradigm of higher education allows us to claim that the professionally competent future bachelor of science should have an idea of the content, forms of education, means, methods of studying integrated science material in the framework of the new school course, taking into account the latest educational innovations. In view of this, higher education is faced with the task of developing future bachelors' competencies necessary for integrating, structuring, defining the sequence of learning material for the wide use of cross-curricular relationships, which leads to the use of innovative learning technologies. Thus, the competency-based approach is one of the leading

factors in the process of modernization and reformation of the modern professional training of future bachelors of natural sciences, which gives the opportunity to fully form the professional qualities of the future teacher and to be ready for the teaching profession.

Prospects for further research in the direction of our study are the introduction and verification of the effectiveness of the model of scientific and methodological system of building competency in biology in the process of professional training of future bachelors of natural sciences.

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