

THE ESSENCE OF READINESS OF FUTURE FORESTRY PROFESSIONALS FOR PROFESSIONAL ACTIVITY ACCORDING TO INFORMATION AND COGNITIVE CRITERIA

Vasyl Khryk¹, Dmytro Pashchenko²

¹Ph.D. (Agricultural Sciences), Associate Professor, Associate Professor of Forestry, Bila Tserkva National Agrarian University, Bila Tserkva, Ukraine, e-mail: hvm2020@ukr.net, ORCID: <https://orcid.org/0000-0003-1912-3476>

²Doctor Sciences (Pedagogical Sciences), Professor, Professor of Pedagogy and educational management, Uman State Pedagogical University named after Pavel Tychyna, Professor of Pedagogy, psychology and education management, Kyiv Regional Institute of Postgraduate Education of Teachers, Uman, Ukraine, e-mail : dmpaschenko@ukr.net

Abstract. *The article reveals the essence of readiness of future forestry specialists for professional activity according to the information-cognitive criterion. It is established that the criterion is related to reasonable structuring of the content of professional training during classroom classes, introduction of pedagogical technologies, actual justified effective methods of professional training, including formation of professional and personal characteristics of the applicant. The components of the information-cognitive criterion of readiness of future forestry specialists for professional activity are revealed: informational and cognitive. It is established that the information component of the information-cognitive criterion contains the following components: determination of the characteristics of forestry information; identification of information sources; collection of operational information in areas of forest production activities; data processing and analysis using general and special purpose computer technologies; formation of qualitatively new knowledge about forest objects. It is established that the cognitive component contains a set of theoretical knowledge that reflects the intellectual development of the individual, such as understanding the unity and integrity of the scientific picture of the world, the presence of a system of methodological knowledge and categories, the ability to establish intra- and interdisciplinary links. . It is revealed that the content of the cognitive component includes: the system of knowledge both at the level of information and at the level of knowledge that allow to form personal skills and abilities; ability to process the received information, which includes comparison of the received knowledge with own life experience, studying of properties and the analysis of structure of the received data, revealing of their signs and features; the need to master new knowledge that characterizes the presence of cognitive interest; ability to perceive information materials in order to increase the social and professional significance of their own activities. Indicators of information-cognitive criterion are offered: indicator of formation of professional knowledge and receptivity of theoretical material, indicator of comprehension of special forestry theories , indicator of formation of professional competencies.*

Keywords: *readiness, future specialists, forestry, professional activity, information-cognitive criterion, competences, knowledge, skills, information culture.*

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Introduction. In the current conditions of reforming the forestry sector, overcoming the crisis and stabilizing the forestry complex, the priority area of transformation is the training of forestry specialists. Modern society today requires from future forestry professionals deep theoretical and practical knowledge in the field of forestry. The success of the process of formation and development of civilized, highly developed forestry production depends on their professional competence, personal and social maturity.

The task of transforming forestry education can be found in the implementation of the cognitive function of learning, rational structure of learning content, using effective methods, taking into account the specific needs of the region. Therefore, the problem of strategic and practical development of the paradigm of providing professional training for future forestry professionals needs the attention of theorists and practitioners.

Literature review. To date, the national forestry education has accumulated considerable experience in the field of professional training of future specialists in the forestry industry (I. Vdovenko [2], S. Vyhovska [3], L. Makodzei [7], E. Mishenin [8], V. Hryk [18, 19] and others). Scientists argue that the training of future forestry professionals is aimed at equipping them with deep and comprehensive knowledge and skills in their specialty, knowledge of the content and methods of forestry science.

In this logic, it seems necessary to include in the system of professional training of future forestry specialists indicators of awareness, education, competence, which characterize the information and cognitive criteria of their readiness for professional activity. Regarding the specifics of professional training, information-cognitive is manifested through the focus of the learning process on creating conditions for conscious acquisition of professional knowledge. Thus, awareness, education, competence, as indicators of the quality of training of future forestry professionals, are manifested in the ability and need to discover and create themselves in the main forms of educational activities; opportunities for self-determination, self-actualization taking into account the acquired competencies; the need and ability to communicate with the world based on a competency-based approach.

The component composition of training is analyzed in dissertation research and scientific publications of various authors. Thus, S. Tolochko in the structure of professional competence of farmers identifies among others the cognitive component [15, p.129].

According to E. Shmatkov, the content of preparation of future masters of forestry for future professional activity in general and management in particular should be aimed at forming managerial competence of applicants, in particular such a component as cognitive, aimed at mastering a set of scientific-theoretical and scientific-practical knowledge. management activities in general, and the peculiarities of its implementation in forestry in particular [17, p.43].

In the study of the process of formation of language and communicative competence of future specialists in forestry specialties O. Gridzhuk identifies content-cognitive criterion [5, p.448].

For the systematic development of self-educational competence of future foresters E. Chebotaryova proposes a cognitive criterion (mastery of knowledge, skills and abilities in self-education; formation of a positive "self-concept"; readiness for continuous self-education throughout life, etc.) [16, p.45].

N. Suchkina points to the presence in the structure of the value attitude of the applicants of the agricultural college to the professional activity of such a criterion as cognitive. The basis of the cognitive component of values, according to the author's research are the presence of professional values and ideals, socially valuable motives;

wide range of professional interests; awareness of personal responsibility for their work; the degree of formation of a professional position [14, p.40].

The criteria for the formation of professional competencies of applicants for agricultural free trade T. Vasiliev includes: the formation of professional knowledge, understanding and awareness of the social significance of the future profession; formation of interests, needs, motivation to acquire knowledge, skills, competencies of future professional activity in the agricultural sector [1, p.91].

Aims. The purpose of the article - to reveal the essence of readiness of future forestry specialists for professional activity according to information and cognitive criteria.

Methods. In writing the article, general scientific research methods, empirical (description) and theoretical (analysis, generalization, explanation, etc.) were used.

Results. In order to clarify the generalized indicators and to conduct high-quality diagnostics L. Nesterova developed criteria and functional indicators that characterize the information culture of future engineers of the forest complex, to which the author includes:

1) information activity - a process in which implemented different degrees of stability and development of information needs, interests and research abilities of the individual;

2) readiness for information communication, which is realized in the process of communication and is one of the most important characteristics of individual behavior in the information environment;

3) information style of thinking, which is manifested in the ability to assess the quality of information, to select from the mass of reliable information, to correlate it with existing information, etc .;

4) technological readiness, which is realized in the process of information activities and is formed on the basis of knowledge of information sources and the ability to use them in search of the necessary information;

5) emotional activity the author presents as a process in which emotions, emotional states, experiences and feelings that accompany the information activities and behavior of the individual, regulate and guide his actions and deeds due to the need for information;

6) worldview activity, which determines the process in which the need of each person in the system of attitude to the processes of informatization, the need for value orientations, the need to defend and approve them by their actions [9, p.100].

In the course of determining the criteria for assessing the professional training of agricultural specialists, which allow to determine the depth of his professionalism O. Karteshkina determines the relevant indicators. The criterion of professional competence includes knowledge, skills necessary for innovative activities of agricultural workers (assessment of the suitability of agricultural landscapes for cultivation of crops, implementation of their technologies, etc.), professional initiative - organizational and managerial skills of agricultural specialists (organization of production teams and management, making management decisions in different natural conditions, etc.). The author connects the development of initiative in the process of

professional training with the inclusion of a specialist in innovation, transformation of practice, the creation of new professional activities based on humanistic values. Initiative is a confirmation of the presence of high motivation to achieve, a steady need for self-realization, which is recognized by others. Professional competence includes knowledge and erudition that allow a person to competently judge the issues of professional activity, be aware of a particular field, as well as personality qualities that enable a person to act responsibly and independently. Professional competence is manifested in the successful solution of a certain class of professional tasks, is an important component and an indicator of a high level of professionalism [6, p.81].

The information component, as pointed out by O. Samokhvalov, is the result of many interrelated actions that form the basis of the future specialist, is presented in the form of a product, according to the goal and contains, in addition to production indicators, top level information [12, p.30].

The information component of the information-cognitive criterion contains the following components: 1) determination of the characteristics of forestry information; 2) identification of information sources; 3) collection of operational information in areas of forest production activities; 4) data processing and analysis using computer technologies of general and special purpose; 5) formation of qualitatively new knowledge about forest objects.

Cognitive component contains a set of theoretical knowledge that reflects the intellectual development of the individual, such as understanding the unity and integrity of the scientific picture of the world, the existence of a system of methodological knowledge and categories, the ability to establish intra- and interdisciplinary links on various scientific concepts and methods.

Cognitive component, carries the semantic load of the subject, its content, the formation of fundamental, basic professional and special professional knowledge [6, p.63].

This component synthesizes humanitarian, socio-economic, natural, professional knowledge in the field of forestry, which allows to apply them effectively in different situations, providing an information basis for professional activities.

The content of the cognitive component includes: 1) a system of knowledge both at the level of information and at the level of knowledge that allows you to develop personal skills and abilities; 2) the ability to process the information obtained, which includes comparing the knowledge gained with their own life experience, studying the properties and analysis of the structure of the data obtained, identifying their features and characteristics; 3) the need to master new knowledge that characterizes the presence of cognitive interest; 4) the ability to perceive information materials in order to increase the social and professional significance of their own activities.

Gridzhuk, the formed cognitive component of a specialist in forestry and woodworking industries should have an ecological and economic way of thinking, understand the organic unity and interdependence of man and nature, be able to ensure sustainable development of society in harmony with nature [4, p.232].

The cognitive component of the information-cognitive criterion presupposes the presence of professional competence in its structure. Scientists who deal with the

problems of professional competence (O. Ovcharuk [10], M. Popova [11], V. Strelnikov [13], etc.) distinguish its components:

1. Actual qualifications (knowledge, skills and abilities in professional activities, necessary and sufficient for professional activities, ie knowledge of the subject of the specialist).

2. Cognitive readiness (ability to acquire new knowledge at the activity level, new tools, new information and computer technologies, the ability to successfully search and master the ability to learn and teach others).

3. Socio-communicative readiness (language skills, business ethics, explanation of their opinions and suggestions, understanding of their colleagues, knowledge and skills related to the implementation of social and professional contacts).

4. Possession of methods of technical-economic, ecologically-oriented analysis of production in order to rationalize and humanize.

5. Creative readiness, the ability to find fundamentally new approaches to solving known and new problems, both in the professional sphere and in related fields.

6. Understanding the trends and main directions of professional development in combination with spiritual, political, social and economic processes.

7. Conscious positive attitude to professional activity, both within the profession and the need, desire and willingness for professional development, corporate self-identification and positioning.

8. Personal-individual readiness, which is represented by a set of knowledge and ideas about oneself in the context of a professional role. This is a person's knowledge of their "strengths" and "weaknesses", both professionals and individuals.

With a person's focus on self-creation and self-affirmation, career growth is associated with personal growth. Personal growth determines the nature and dynamics of career growth, and vice versa, career motives stimulate personal growth [6, p.84].

Thus, professional competence is the basic basis for the criteria for determining the quality of training of future forestry professionals, the concept is integrated and includes several competencies. In this study, the most important are: special, environmental, design and research, organizational and communicative, individual competence. It is these components that ensure the completeness of the overall assessment of professional competence, actualize the importance of its complex manifestation in behavior.

The analysis of the scientific literature has shown that to date the criteria and indicators of readiness of future forestry specialists are insufficiently defined. Based on the developments of the above authors and a set of selected professionally important qualities, we are convinced of the relevance of our assumption of the selection of not cognitive but information-cognitive criterion as an algorithm for developing professionally important knowledge, skills, competencies and personality qualities, information culture.

This criterion is associated with reasonable structuring of the content of professional training in the classroom, the introduction of pedagogical technologies, relevant justified effective methods of professional training, which includes the formation of professional and personal characteristics of the applicant.

The content of the criterion, expressed as a set of competencies that include theoretical knowledge, practical skills and personal attitude to them, is shown in table 1.

Table 1. Content of information-cognitive criterion of readiness of future forestry specialists

Professional competence	Content		
	knowledge	skills	personal attitude
Special	opportunities and areas of application of knowledge used in the activities of forest specialists farms	have professional skills in the field of forestry; preparation, processing and transfer of professional information of forestry orientation	ability to search and process the information necessary for high-quality performance of forestry tasks; understanding of the main tasks and promising areas of development in the forestry sector
Ecological	special information sources on modern achievements of domestic and foreign science in the field of forestry ecology	use information technology and communication tools as information support for environmental activities in forestry	value attitude to nature and the environment in the conditions of modern industrialization and technologicalization of production processes in the forest industry
Design and research	methods of obtaining and organizing various information; optimal research methods, systems and design methods using special software	choose the means of the most appropriate research methodology, correctly interpret the results of data processing; apply the information obtained in research and production activities	the ability to transform information in accordance with the goals and objectives; readiness to analyze and critically interpret information, forecast performance and make competent, operational decisions based on them
Organizational and communicative	opportunities for communication and network communication; means and methods of bringing various information to the members of the workforce; rules and requirements for the preparation of information and analytical reports, reviews, feedback and conclusions	process the information received for making operational management decisions; carry out professional and personal communication through forums and teleconferences, e-mail in compliance with generally accepted rules of conduct on the Internet	ability to choose decisions based on the received information, readiness for personal communication with using network communication technologies; readiness to master scientific and social experience together with the subjects of information interaction
Individual	diagnostic and testing programs for self-monitoring and self-assessment of activities; ways to protect against the negative effects of the information environment	navigate the diversity of information sources on electronic and printed media	ability to perceive and interpret information; conscious understanding of the need for constant replenishment of knowledge and the formation of new skills in the field of informatization

Source: compiled by the authors

As a clear example, we can consider the process of studying forest soil science, in which it is important to know the method of determining the moisture content of the soil sample. Soil moisture is defined as the fraction of the mass of water contained in the soil during sampling by the mass of absolutely dry soil, expressed as a percentage.

Initially, applicants write a formula for better memorization, but later write only the equation, replacing some variables with values from the condition of the problem.

As applicants trained in problem solving, they learned to perform the sequence of actions needed to solve a problem or part of a problem - called tactical training (tactics means achieving a specific goal). But when problems become difficult, tactical training cannot help solve the whole problem. Then you need strategic training, which is to master the method of organizing the solution of the problem, which is best suited for any problem in a particular area. For example, when making recommendations for the use of forests for the cultivation of specific crops, you need to give a more complete agronomic characteristics of forest soils located in these areas, properly assess them, calculate the possible economic outcome.

Another dimension of competencies is that applicants who solve problems of a production nature learn competently perceive problems, offer alternative solutions, analyze the expected results, which allows them to apply more effective problem-solving procedures.

This can be demonstrated by the example of the topic "Erosion and protection of forest soils", quite difficult to understand, which has laws, theoretical provisions that underlie the visible characteristics of soil problems. Applicants are asked to classify a large set of problems into categories on the basis of similarities and differences: applicants receive several samples of forest soil with pronounced erosion. Applicants who have not developed the competence to determine the nature of soil damage, rely only on surface indicators (color, density, structure become the basis for their classification). Applicants who developed professional competencies attributed soil samples to the same type of erosion visually different, because they were associated with a common feature - low humus content, lack of fine soil (for example, for samples damaged by wind erosion).

Considering the mechanism of formation of professional competencies of applicants, we came to the conclusion that it is based on the process of acquiring knowledge and skills. This process consists of several cognitive stages, which are most closely interrelated: the perception of the material provides knowledge of phenomena and subjects of training in general, its understanding realizes the understanding of internal logical connections between parts of the subject, memorization and mastery contribute to preservation in the memory of the mastered material and the formation of readiness to reproduce it at any time to solve educational and production tasks.

To translate knowledge and skills in competence, the demand for acquired information in practical professional activities is organized, for which the applicant converts verbal or declarative knowledge (knowledge of facts and objects) into procedural knowledge (knowledge of how to perform various cognitive actions - search and processing information), which leads to its proceduralization (the process of transition from the explicit use of declarative knowledge to the direct application of procedural knowledge).

The most significant sign of increasing the level of competence of applicants is the formation of a set of perceptual properties that are used to encode problems. Formation and development of professional competencies is possible only if the applicant has motivation to learn, which affects the emergence of dialectical, systematic, logical generalization and contributes to a broad vision of problems and solutions, and

ultimately develops the scientific style of thinking of future professionals needed in further production .

Therefore, not only the completeness of the answer, knowledge of methods of agronomic indicators and analysis of forest soil properties, correctness of tasks in the final control were taken into account, but also active work throughout the semester, attendance, grades obtained in intermediate control, ability to work with equipment and devices, the results of definitions and analyzes obtained by the applicant, the ability to analyze, summarize and understand the data obtained, to prove them. All these parameters indicate a comprehensive approach to the assessment of academic achievement and the formation of professional competence as a result.

Discussion. The above allows in the information-cognitive criterion to identify the following indicators: indicator of the formation of professional knowledge and receptivity of theoretical material (degree of understanding of the essence of forestry concepts , laws, patterns, degree of logic of theoretical material in accordance with the educational situation); degree of understanding of the peculiarities and tasks of the production situation, the degree of mastery of the ability to classify and differentiate forestry concepts), an indicator of the formation of professional competencies .

Result. Thus, the information and cognitive criterion of readiness of future forestry professionals for professional activities is associated with reasonable structuring of the content of vocational training during classes, introduction of pedagogical technologies, relevant justified effective training methods, including the formation of professional and personal characteristics of the applicant. The components of the information-cognitive criterion include: informational and cognitive. Indicators of information-cognitive criterion are offered: indicator of formation of professional knowledge and receptivity of theoretical material , indicator of comprehension of special forestry theories , indicator of formation of professional competencies .

Prospects for further research are seen in the experimental verification of the readiness of future forestry professionals for professional activities in information and cognitive criterion.

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