Theoretical Basis of Professional Training of Future Technology Teachers

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Abstract: This article provides information on the theoretical basis of professional training of future technology teachers. The subject of technological education and the components of professional training of future teachers of technology are discussed.

Keywords: technology, innovation, technique and technology, credit module, competence, vocational education, professional mobility, preparation, readiness.

The main goal of technological education is the training of highly qualified personnel, which is "State educational standard of higher education. It is reflected in the Basic Rules" and in the qualification requirements of the Technological Education field. This, along with high professional training, shows the need to develop the ability of self-education, self-determination, independence and self-awareness in educational subjects. The leading goal of the professional training process should be the formation of a person's readiness to perform professional activities.

Therefore, the readiness of a person is considered as a prerequisite for the effectiveness of any activity, including professional (pedagogical) activity. Let's look at the concepts of "preparation" and "preparation", their similarities and differences.

In "Explanatory Dictionaries", the concept of "preparation" is explained with the meaning of teaching, or giving necessary knowledge for understanding something, showing direction. The concept of "readiness" means a state where everything is ready to agree to do something or to do something. The concept of "ready" means to be developed, to be present, to be able to do something. "Preparation" means the state or aspect of being prepared to perform a specific job or activity in a field.

According to Yu.I.Turchaninova, readiness is a characteristic of the state of potential, which allows a specialist to enter the professional community and develop professionally.

The analysis of literary sources shows that the concept of "readiness", like "preparation", covers the concept of "preparation" and indicates the processes leading to the state of readiness in the resulting state.

The term "preparation" is used in two senses: a) learning - formation of readiness to perform future tasks; b) readiness - the availability of knowledge, skills and qualifications necessary to perform the specified tasks.

Analyzing the definition of the concept of "preparation", we found that regardless of the interpretation, it is always seen in the context of professional activity. Let's consider the term "professional training" (lat. Profession - type of labor activity).

Professional training is defined as the process of acquiring knowledge, skills and abilities that allow working in a certain field of activity. Vocational training is a process aimed at intensive acquisition of skills necessary for the performance of a certain job or group of jobs by students and does not involve increasing the student's educational level. The professional readiness of the specialist is determined as an important condition for the integrative personal quality and the effectiveness of post-graduation activities.

Professional training helps a young specialist to successfully perform his tasks, to use knowledge and experience correctly, to be self-controlled and to adapt to the situation when unexpected obstacles appear. The professional readiness of the specialist is a decisive condition for adaptation to working conditions, their further professional improvement and qualification improvement.

The specialist's readiness for professional activity is determined by the mastery of special knowledge, professional activities and the full range of social relations, the formation and maturity of the professional qualities of a person.

E.P. Belozertsev, A.D. Goneev, A.G. Pashkov, V.V. Rubtsov and others understand that professional training means that a future specialist possesses the necessary knowledge, skills and competencies.

By professional training, N.N. Khridin understands the acquisition of knowledge, skills and qualifications of professional importance for a teacher, the formation of professionally important qualities and professional thinking. Vocational training is an activity aimed at intensive acquisition of skills necessary for the performance of a certain work or group of work by students. However, professional training may not go hand in hand with increasing the level of education of students.

Yu.K.Babansky, V.P.Bespalko, M.N.Skatkin see professional training as a process leading to a state of readiness in professional activity. They consider the professional training of a specialist as a product of professional training in an educational institution. We support their ideas and believe that the professional training of future specialists should be considered together and interrelated with their professional training. Because they complement and deeply describe each other's essence.

According to N.V. Kuzmina, the professionalism of pedagogical activity consists in controlling the effectiveness of scientific research elements, introducing them for self-management. At the same time, effectiveness is defined as a system and sequence of actions aimed at a pedagogical goal related to solving pedagogical problems, which ensures that all or most of the students achieve the intended final result in the time allocated to the educational process.

This is provided by synthesizing basic knowledge, skills, abilities, conscious social and personal views and attitudes, value orientations, spiritual and moral qualities of a person.

Professional competence is a set of professional and personal qualities of a person that ensures the effective implementation of competences, and professionalism is considered as a high level of competence in the implementation of competences, the professional personal maturity of the owner of the competence, and the existence of such a key indicator as the formation of scientific pedagogical consciousness.

Professional skill is an integral quality (neoplasm) of a labor subject that characterizes the effective performance of professional tasks due to creative amateur activity and a high level of professional self-awareness.

In our opinion, this concept was fully revealed by V.A. Slastenin. He stated that the qualitative characteristics of the teacher as a subject of pedagogical activity, i.e. his professionalism, are components of a high level of professional skills and professional training of a person, which consist of the following components:

1. Psychological readiness is determined by the level of tolerance of a person's psyche to the effects of stressful situations, a person's flexibility, the specialist's confidence in his abilities and capabilities.

2. Intellectual and cognitive readiness includes a certain level of professional development of a specialist in his cognitive activities: professional perception, thinking, imagination, memory, attention.

3. Motivational readiness - a person's orientation to development in the educational process, understanding of the essence of his profession, positive attitude to his profession, self-respect at the necessary level, ability and readiness to defend his professional and personal opinions, strong motivation to achieve success.

4. Operational and activity readiness is the development of professional skills (a set of professional important qualities, knowledge, skills, professional behavior habits), the professional skills and voluntary training of the specialist at the necessary level, his own behavior and activities. includes the ability to manage zi.

5. Communicative readiness is the sufficiently developed skills and competencies of constructive and effective communication with people, the professional environment, professional communication with employees and managers, a sufficient level of human speech culture and professional thinking.

6. Creative readiness - the ability of a modern specialist to search for and identify new methods, tools, methods in solving professional problems of a traditional nature and presented by life.

The sum of the considered conditions of professional readiness, together with the specialist having the appropriate level of professional competence, constitutes one or another level of a person's professional skills. A person achieves a high level of professionalism in the process of mastering the field and working in it for a long time. Therefore, the professional training of the teacher is the basis for the formation of professional competence, and later, for increasing the professionalism of the specialist. There is no equality between these concepts.

Today, there are many studies devoted to studying the problem of professional training of specialists, the problem of formation of professional competence and professional skills, including many works on the professional training of specialists in the field of education and the issue of formation of professional competencies and skills in them.

In our competence approach, the professional training of a technology teacher, which reflects the quality of training, is determined by the graduate's general and professional competencies, functional and personal readiness to solve professional-pedagogical issues in the technological education of schoolchildren.

In our opinion, the functional training of the future technology teacher is the state of the teacher's personality, aimed at the implementation of professional and pedagogical activities, which ensures the technical-technological and personal training of the school graduate.

The personal readiness of the future technology teacher is the willingness to perform professional and pedagogical tasks in the multi-functional training of schoolchildren.

We use the point of view that "the structure of teacher's professional training is related to the synthesis of professional knowledge (epistemological component), valuable attitudes (axiological component) and professional skills (praxiological component)." Thus, we determine the structure of the professional training of the future technology teacher through interrelated components (epistemological, axiological and praxeological). Their composition is determined as follows:

1. Epistemological component - knowing the essence of professional activity and professional tasks to be solved; searching for and receiving information, processing it and making decisions; professional specificity of thinking.

2. Axiological component - value and value orientations, motives of professional activity; readiness for action; readiness for professional activity and self-education; important professional qualities of a person.

3. Praxeological component - skill, competence, actions (communicative, informative), experience.

In the modern encyclopedia, structure means a set of stable connections between many components that ensure the integrity and uniqueness of an object. Accordingly, all components of the professional training of a future technology teacher are interrelated and form an organic unit.

Professional training of the future technology teacher based on the epistemological component, including technical-technological and methodical knowledge: study of modern technologies and their development trends; to get acquainted with the main branches of production and the relations between them; study of various materials processing technologies; acquaintance with production economy; acquisition of knowledge on the methodology of teaching technology in educational institutions.

The level of knowledge is of particular importance in technological education. In the process of studying professional sciences, the student should receive not fragmented (fragmented) information about various production and technological processes, but basic training that will allow him to easily apply the acquired knowledge in various fields of science and technology.

"Knowledge" in philosophy is extremely wide - it is determined by the result of understanding the reality tested by socio-historical practice and confirmed by logic, its correct (adequate) reflection in the human mind in the form of ideas, concepts, judgments, theories. In pedagogical literature, this concept refers to facts, events, laws that ensure the ability to understand, memorize and reproduce theoretical generalizations (concepts, laws, judgments, rules, conclusions, etc.) arising from them, and to make optimal (optimal) decisions in practical activities. limited. The task of knowledge is to serve the activity of the subject of activity. Searching for ways and methods of solving practical problems on the basis of knowledge, determining the actions necessary to achieve the result, foreseeing and evaluating them is carried out.

"60112300 - The epistemological component of the professional training of students in the direction of "Technological Education" consists of the following:

➢ **Compulsory subject block** (General psychology, General pedagogy, Media literacy and information culture, Introduction to specialty science, Material science, Technological education practicum, Folk crafts and art design, Basics of robotics, Inclusive education. Hospital pedagogy, Technology teaching methodology, Vocational Orientation, Trends and Modern Approaches in Continuing Education);

➢ **Block of elective subjects** (the latest history of Uzbekistan, philosophy and cultural studies, practical Uzbek (Russian) language, foreign languages in the professional field, application of information technologies in professional activities, technical mechanics, hydraulics. Heat engineering, modern production equipment, Metrology, standardization and certification, Construction and design of sewing products, Organization of circle work in technological education, Drawing geometry and engineering graphics, Teacher speech culture, Labor safety in the technological process, Electronic electrical measuring devices, Technology and design, technical creativity and construction, production technology, mechatronics and automated systems, food preparation technology, handloom learning technology, agricultural work organization technology, mathematics in the field of education, educational work methodology, the method of organizing experimental tests kasi, Control work organization and international assessment systems, 3D Modeling, Robotics and STAEM education, Design of technological processes, Advanced pedagogical technologies in technological education, Fundamentals of entrepreneurship and StartUp, Electrical engineering, electronics and electricity, Creative and constructive activities Basics, Professional Competence, Service);

➢ **Qualified practice and final state certification.**

"60112300 - Technological education" course curriculum and qualification requirements analysis showed that a necessary condition for the professional training of a technology teacher is the study of the subjects taught within this specialty.

The knowledge gained during the study of these subjects is the fundamental basis of the professional training of the future technology teacher.

The axiological component of the professional training of future technology teachers includes value relationships, orientations, motivations for educational and professional activities (the image of "I am a technology teacher", a hierarchy of personal values is created and systematized according to this image) takes.

Defines the values of pedagogical activity as features that allow the teacher to satisfy his material and spiritual needs, serve as a guide for his social and professional activities aimed at achieving socially significant humanistic goals.

Value relations are involved in the process of managing students who are engaged in the selection, evaluation and actualization of values. Value orientations are the result of the management of the pedagogical process related to the introduction of values into the structure of the person and their management in practical activities.

The subject's value system describes the individual's integrity, loyalty to ideals, determination to achieve their goals, forms the inner core of culture, the spiritual set of needs and interests of individuals and social communities. Each value of the system of values has a two-fold basis: in the individual as a self-valuing subject and in society as a socio-cultural system.

In this regard, the formation of a new personality requires a change in values. Training a highly qualified technology teacher requires him to develop professional knowledge and skills, as well as an axiological component. An attitude of value towards the profession in the field of knowledge and life is formed. Then there is a reassessment of values, an understanding of one's place and role in the world. The image "I am a teacher of technology" is formed, according to this image, a person plans and predicts his future. A hierarchy of personal values is built and systematized. Without a value orientation, knowledge cannot be realized, and projects cannot emerge until there is an understanding that there is a desire for the future to be the way it is. Self-transformation, re-evaluation of values, creation of a scale of personal worth leads to the possibility of orientation to value, in this process there is a conscious awareness of the value of the future for the person, the image of the future technology teacher is formed as a competitive person, ready to adapt to changing living conditions.

The knowledge that forms the basis of professional training of a specialist should have the characteristics of mobility and variability in changing external conditions. Therefore, it is important to emphasize the need for self-education, self-development, self-improvement by a person (student) as a characteristic of his professional training.

The praxeological component of the professional training of a technology teacher is defined as the ability to apply technical-technological and methodological knowledge in professional and pedagogical activities, which includes the development of gnostic, design, constructive, communicative and organizational skills of a technology teacher.

The concept of "skill" presented in pedagogical and psychological literature defines a skill as a process, a sequence of actions based on a system of knowledge, a mental aspect of a person that has become an internal possibility to perform an activity as successfully as possible.

Stereotyping is characteristic of the skill as an automated action. And skill is manifested in solving new problems, and it is not just a simple repetition of knowledge acquired in previous experience, because it includes adaptation to new conditions and periods of creativity. A skill has an element of automaticity, but in general it is carried out consciously, and therefore, unlike a skill, thinking activity is always active in a skill. The concept of "skill" is broader than the concept of "competence", it includes different alternatives of actions. Skill is manifested in the successful application of knowledge in a new, challenging environment, and competence - in repetitive situations.

Therefore, competence should be understood as an integral element of skill, a type of automated action that has reached a high level of perfection. We consider only skills in our research, because students of higher education institutions cannot bring skills to automatism due to lack of professional experience.

In our research, we focus on N.V. Kuzmina's classification of professional skills and determine the content of gnostic, design, constructive, communicative and organizational skills of future technology teachers.

Gnostic skills solve the problems of gathering, acquiring and applying new knowledge. Technology teachers should be able to introduce students to the latest advances in science and technology; compliance with labor protection rules and conducting safety briefings; determine the main characteristics of materials; justify the choice of materials for the production of parts and structures; create and edit the simplest graphic images; act in economic situations; analysis of own activities and activities of students; analyzing educational technologies and justifying the choice of educational information, teaching methods and forms.

Projecting skills are reflected in the success of planning future work and predicting its outcome. Planning skills include the following skills: defining and formulating the goals of future activities; predicting the effectiveness of selected methods and technologies; determining the logic and sequence of work; identifying and using alternative solutions; assessment of the quality of the achieved results; taking into account the usual mistakes and shortcomings in work; the methodological structure of the lesson, imaginative planning of its various options.

Constructive skills are manifested in the development of effective technological, pedagogical and methodological processes. Students should create a bank of technologies (ideas) for the production of a number of basic products; development of technological directions, selection of methods, equipment, materials, means and mode of processing various materials; development of design documents for products; use of computer technologies in graphics, design and other work; selection of material for one lesson; selection of teaching method and methods, selection of teaching form and special teaching tools; distinguishing the concepts and laws of nodes in it; developing the lecture text of the lesson; use different approaches in explaining a new topic in the lesson.

Communication skills describe interpersonal relationships. Communication skills include the following skills: conveying information and listening; problem prevention; establishing comfortable interpersonal relations; to determine a person's inner world, direction and probable future actions; create a situation of success; understanding other people; determine which type of people the person belongs to; to determine the nature of human thoughts, human condition, whether or not it is related to a work; providing effective pedagogical conversation; focus on the most important aspect of another person; to correctly determine a person's attitude to social values.

Organizational skills solve the problems of implementation of planned work. These skills are in the preparation of technological equipment and workplaces; in allocating one's time correctly; in monitoring the quality of educational activities and work performed in it; in individual and collective activities of students; in independent study of educational material; in the use of technical training manuals; in creating conditions for successful educational activities of students; it is manifested in the organization of students' tasks in the lesson.

During education, the technology teacher must have skills and competences in the processing of structural materials, because in technology lessons at school, he not only explains the technological process of product production or processing, but also teaches schoolchildren various must show the processing of products using the type of equipment and tools.

Thus, the praxeological component of professional training of future technology teachers includes gnostic, project (design), constructive, communicative, organizational skills, skills and educational and life experience.

The primary goal of the process of professional training of students should be the formation of a person's psychological readiness to perform professional activities. Psychological preparation of a person is considered as a prerequisite for the effectiveness of any activity, including professional activity.

A person may have the necessary knowledge, skills, qualifications, educational and life experience, an attitude that values the activity, motives in the activity, he may have formed important

professional qualities for the implementation of this activity, but if he performs this activity psychologically if he is not ready to perform professionally, if he does not have the inner mood to perform professional activities, then we cannot consider the teacher to be professionally prepared.

The analysis of pedagogical and psychological literature showed that the professional training of a teacher is a complex, multifactorial phenomenon, which represents a single, integrated structure. The effectiveness of the activity is ensured by the interaction of these three components. Therefore, the professional training of the future technology teacher can be formed only when there is a unity (integrity) of interrelated epistemological, axiological and praxeological components.

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