FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE CIVIL ENGINEERS IN THE CONDITIONS OF INFORMATIONAL EDUCATION: HISTORY AND CURRENT SITUATION

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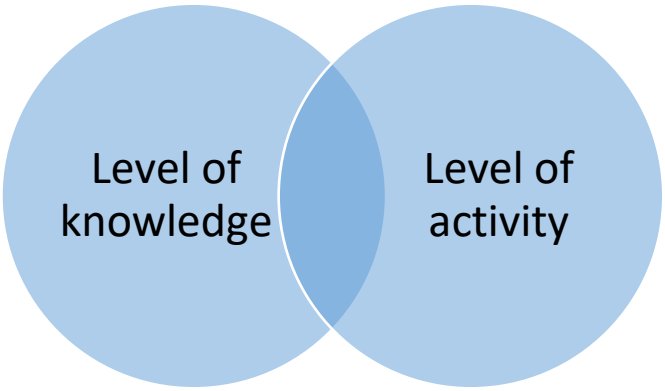
Abstract*. This article focuses on the future specialist-technologist to develop a model for the formation of professional competencies in the study of professional sciences.*
Keywords*: professional competencies, competency approach, competence, method, conceptual table, special character.*

Introduction. The results of the reforms carried out in the field of architecture and construction under the auspices of the President of the Republic of Uzbekistan have led to significant changes in the State Committee of Architecture and Construction. In our country, comprehensive construction and industrial works are being carried out in all sectors of the economy, and the volume of construction works is increasing year by year. The structure of the State Committee of Architecture and Construction has been fundamentally changed and new tasks have been set. Specifically, it is necessary to train highly qualified professionals. Nowadays, it is essential for engineers and builders to improve their knowledge of information technology. In our country, special attention is paid to organizing the education process in accordance with modern requirements, especially in the higher education system for training highly qualified personnel in the field of engineering and construction. It's important to continuously develop the professional skills of teachers to effectively integrate digital technologies and modern information tools into the educational process.

Literature Review. Our goal is to provide well-trained teachers who can educate young people with modern knowledge and strong moral values in all educational institutions. In pedagogical literature, authors like V.I. Zagvyazinsky, L.I. Prigozhin, and V.A. Slastenin talk about innovative teaching methods, new approaches, and improving the education system.

In today’s world, there’s a focus on developing students’ physical, intellectual, and spiritual growth throughout their lives. The use of information technology and computers in various fields like architecture, design, geology, industry, agriculture, education, and healthcare is important for enhancing students’ thinking abilities and creativity. The use of modern information and communication technologies in education aims to achieve educational goals, improve the management of the education system, and help students develop independent learning skills. It also involves updating the subject matter, teaching methods, and providing teachers with modern knowledge and tools providing a mechanism for the transport of educational-methodical and didactic supplies from electronic devices in management based on education; Modern condition-based organization of the form and method of education based on the basic knowledge and skills of the learner; To improve the personal ability and activity of education, to make an investment decision for maturity in his comprehensive professional activity; Monitoring the learner’s ability to self-manage, control and critically analyze; Is one of the main stages of providing pedagogy

and pedagogy with modern information and communication technologies. This process puts before modern pedagogy tasks in the production of important tasks in a new stage as a quality based on the informatization of society. This action is considered a social order of the society, and it can be ensured mainly by providing the educational process with modern information communication and tasks. Considering the new level of changing the content and methods of competent education in many products in connection with the demands of the modern economic and social education system. From this point of view, in many ways, competence is interpreted as a set of interrelated personal qualities necessary for productive and creative activity, and competence is interpreted as having the necessary competencies of a person who has the opportunity to solve any problem in a certain field. International experience promotes a two-level model in the restoration (development) of modern informational education level competence among professors and teachers: 1) level of knowledge (preparation for activity; practical literacy); 2) activity (practical activity). It is manifested at the level of knowledge in the field of engineering: mastering modern informational programs that process text, numbers, graphics, voice data; being able to work on the Internet, accessing electronic boards: knowing how to access forums, e-mail, sites; being able to use a scanner, Pinter cabinet.



International pedagogue's' informed educational experience is an experimental activity in competence management

The level of activity is reflected in the capacity: 1) the level of education – the content and methodology of one or another educational subject, the introduction of special media resources to the educational activity; 2) the subject of study is the acquisition of independent (personal) electronic power [5].

It is necessary for pedagogues of higher educational institutions to be able to show themselves as those who can learn, study, design, and prepare didactic products (developments) with modern informational assistants [6].

N.Yu. Goncharova regulates the purpose of the court, and the court tries to serve the purpose of the organization of the activity that is manifested in each of them. It has become difficult to imagine any aspect of society without computers and computer technologies. Actions on five sustainable directions of the development strategy of the Republic of Uzbekistan in 2017-2021, the topic "In the field of information" occupies an important place.

Accordingly, the development of informational and communicative competence of future specialists in the environment of modern information technologies becomes relevant [8].

Content. The rapid development of modern information technologies, the ability to work with them, the need to use the possibilities of computer technology in the educational process requires the need to demonstrate the information and communicative competence on the basis of

the professional competence of the specialist. At the same time, it is necessary to be aware of the essence of the concepts of “competence”, “competence”, “informational-communicative competence”, “informational-communicative competence of an expert” and what knowledge, skills, and abilities to develop in the higher education system. Helps to clarify the concept.

The Importance of modern information technologies is increasing day by day. Therefore, it is no longer enough to master the course “Drawing geometry, engineering and computer graphics” for students who intend to become specialists who fully meet the requirements of the present time. In order to use modern computer tools at a high level in various fields, it is desirable to work with electronic boards using computer graphics and new pad technologies.

Introduction to software and technical tools of computer graphics, which is considered one of the main and current sections of computer technology. Having studied the capabilities of the computer, he should know how to use modern technologies to solve issues related to his specialty.

The purpose of higher education in the direction of “engineer-builders” is to form professional skills of the future professional engineer in the design, construction and operation of bridges and other transport structures in his independent professional activity. The following questions should be answered when studying the problem of training in graphic subjects aimed at developing the professional skills of an engineer-builder specialist:

What is the essence of the concept of “professional skills of an engineer-builder”?

Which methodological approach creates the most optimal technologies for the development of the skills of a specialist in this field in the process of teaching graphic sciences?

What opportunities does graphic education have for higher education institutions today, and how are these opportunities implemented in the development of the professional skills of a bridge engineer?

The concept of professional competence is clearly defined by scientists. However, referring to this category makes it possible to consider the preparation of a future specialist for professional activity not only from the point of view of acquiring a standard system of scientific knowledge and skills, but also from the point of view of developing personal qualities that allow the competent application of this knowledge. The goal of education reforms in recent years is to prepare people who are successful in their chosen profession and live in a successful country. A competency-based approach, the analysis shows, is the most appropriate scientific and theoretical framework for achieving this goal.

The study of the nature and structure of the professional competence of expert builders is determined by the features of modern engineering. Therefore, first of all, the essence of the professional activity of a specialized bridge builder should be considered.

The complexity of production and applied technologies inevitably leads to the specialization of engineers working in the field of design, engineering research or organization of production technology. However, “in addition to the consistent differentiation of engineering activity into different sectors and types, its integration is also growing. To implement it, special specialists – system engineers are needed.” The author draws attention to the need to develop innovative activities as a condition for ensuring the competitiveness of the economy.

By extrapolating this thesis to the field of bridge construction, using technology, new systems and accumulated advances in the field of bridge design, the enterprise can constantly monitor the needs of the construction market, ensure the high-quality performance of its construction, and its It is necessary to try to become a leader in the sector of production facilities.

In the works of the authors who considered the problems of engineering activity, the issues related to the professional activity of an engineer-builder specialist were not covered. Engineering activity in the field of bridge construction is characterized by all the above-mentioned signs, as well as has special features that are unique to the activity of bridge builders. In addition, it should be noted that coordination with many organizations is necessary during the design, construction and operation of bridges and transport tunnels. As these construction projects are affected by the atmospheric effects, road traffic and pedestrian traffic, as they depend on the geological, hydrological and geodetic conditions of the construction site and river navigation conditions, they are objects of architectural culture. And creates the necessary conditions for the operation of vehicles equipped with electrical equipment. Bridges, buildings, railroad lighting and under-bridge river navigation signaling equipment, etc. It increases the role of the communicative component in the engineering activities of bridge workers engaged in the design and construction of the facility, as well as their competence in construction-related areas. In the works of the authors who considered the problems of engineering activity, the issues related to the professional activity of a bridge builder are not covered. Engineering activity in the field of engineer-builder is characteristic of all the above signs, and also has its own characteristics that are suitable only for the activity of bridge builders. In addition, it should be noted that coordination with many organizations is necessary during the design, construction and operation of bridges, transport tunnels and buildings.

Subjects and objects of the engineer-builder's professional activity: research, design and construction of roads, bridges and transport tunnels, current maintenance, repair and reconstruction of vehicles, production of road construction materials, production of bridge and tunnel structures. The state educational standard divides the types of professional activity of a graduate of the specialty into the following: technological, organizational-management, project-research, project-construction, scientific-research. Any activity of an engineer requires quality performance of various functions.

Graduates of higher educational institutions of the country with the specialty "Road construction engineers", "Bridges and transport tunnels" can work as civil engineering and design engineers of transport facilities, construction facilities. It is possible to work as an engineer-builder, construction production management, transportation facilities, research in the construction industry and study of operational construction objects in the future.

Thus, after analyzing the works of authors who have considered the problems of modern professional activity, we should present the professional activity for a professional builder in the form of a sample of professional activity for a professional builder. The layout and structure of this model helps to define the functions performed by a bridge engineer-builder in various types of activities regulated by the qualification requirements for this specialty.

The classification of characteristics obtained from content and labor resources appears very clear, according to the conditions, the list of characteristics for organizing labor towards creating qualities specific to itself is apparent. However, an example confirming their accuracy could be the activities of an engineer conducting geodetic and geological survey works in a construction site. Firstly, these activities are carried out in harsh natural conditions and later, precise work is performed in a design institute equipped with modern conveniences.

Conclusion. The model of professional activity of an engineer-architect and the classification of characteristics for developing the professional skills of a specialist involved in the production of bridges and buildings serve as a basis for understanding the conditions for teaching

graphic subjects aimed at developing the professional competence of specialists. Social-economic changes and the formation of free market relations based on various forms of ownership shape the emergence of competition in the labor market, requiring changes in the training of specialists.

In the new concept of developing higher education in Uzbekistan, attention is focused on creating a professional orientation in training specialists for the comprehensive intellectual and spiritual development of individuals, implementing and fulfilling the main tasks in professional guidance, social roles, within a new educational framework. This situation highlighted the necessity of training active, skilled, initiative-taking, professional specialists. Improving the modern education system as a leading direction of modern higher education, humanizing and democratizing the educational process, fostering tolerance, social competence, and professional preparedness goals are aimed at understanding technological and cultural achievements, adapting easily to a changing world and putting them into practice. In today's world, a successful individual is defined as a professional with advanced skills in a specific field of activity. Professionalism elevates an individual to a new level.

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