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FACTORS OF FORMATION OF PROFESSIONAL COMPETENCE IN THE CONTEXT OF INFORMATION EDUCATION

Abstract: *The essence of a competent approach to education and the relationship of the main features of this approach, as well as the pedagogical conditions for its implementation, the theoretical and practical study and design of competence at a modern level, the formation of professional competence.*

Key words: *professional competence, pedagogy, information, civil engineer, method, educational process.*

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Introduction

Globally, research is being conducted to develop a scientific basis for the formation of professional competence in the field of descriptive geometry engineering and computer graphics, to improve modern forms and methods of teaching based on a competency-based approach. Also, the development of a methodological system based on modern teaching methods and tools in accordance with the content of education to determine the professional competence of future teachers of descriptive geometry, engineering and computer graphics, and the development of interactive technologies and tools for improving the content of teaching materials. The need arises. Based on this need, it is necessary to improve the requirements for the content and quality of professional training of future teachers, the development of methods and didactic bases of teaching general subjects, the creation of modern software tools for knowledge assessment.

The task of further development of the Republic of Uzbekistan is "further improvement of the system of continuing education, increasing the capacity of quality educational services, training of highly qualified personnel in line with modern needs of the labor market, introduction of international standards for assessing the quality of education." The educational process is faced with the problem of allocating study time to the creative work of future

engineers. This leads to the intensification of their educational activities and the use of modern information technologies.[1]

K.Grebennikov, L.Ivannikov, O.Krainova, O.Odintsova, N.Petrova, E.Tretyakova, L.Turanova conducted research work on the scientific and theoretical foundations of computer graphics and its application in the educational process. In their research, the methodology of studying computer graphics is reflected only in the training of specialists in narrow areas, that is, in the training of teachers of mathematics and computer science in specialized disciplines of professional colleges.

Shounak Mitra from India, one of the foreign researchers, "Teaching the application of tasks in teaching engineering and computer graphics to manage SMART infrastructure in construction" These are two technologies that are applied innovatively in various fields, including engineering, agriculture, education and so on. The idea of allowing computer decision making is not the latest innovation. This research work is to manage intelligent infrastructure and control it through a computer. In his research, he worked on two topics. The first is sensor control and the second is remote control. [2]

The essence of the competent approach to education and the relationship of the main features of this approach, as well as the pedagogical conditions for its implementation, the theoretical and practical

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study and design of competence at a modern level, the formation of professional competence. Sh.S.Sharipov, M.M.Vakhobov and others, foreign scientists A.A.Verbitsky, I.A.Zimnyaya, Yu.G.Tatur, A.V.Khutorskoy, SAMeriot, J.Raven, DSRychen and others. The quality of training of professionally competent people studied by other scientists and improving the quality of teaching in higher and secondary special education is scientifically based.

II. Methods

Like any pedagogical system, the system of developing the professional competence of the future engineer-builder in the process of teaching graphic sciences provides interaction of students, professors, teachers, learning objectives, content of graphic sciences, organizational forms of teaching and didactic processes. This interaction is reflected in the structural model of developing the professional competence of the future bridge builder.

In this pedagogical system, the system-forming element is the learning objectives determined by the social order of the society, as opposed to the features and requirements of modern professional activity.

The activity of a civil engineer. Each element is a complex subsystem in which the interconnected activity elements have their own structure. A change in a system-generating element causes changes in all other elements of the system. Thus, the replacement of traditional educational goals (subject areas) with a broader component of the professional competence of the specialist requires the organization of all other elements of the pedagogical system.[3]

When we start designing the technology of teaching graphic sciences to students majoring in "Engineer-Builders", it should be noted that the process is an interconnected pedagogical effort aimed at solving problems such as teaching technology:

- preliminary design of the educational process with the implementation of this project;
- definition of educational goals and objective control over their achievement,
- integrity of the structure and content of the project;
- optimization of teaching methods, forms and tools;
- Availability of quick feedback, which allows you to adjust the learning process

The design of science teaching technology can be presented as a procedure for describing the system of interrelated pedagogical processes and ways to develop the components of professional competence of the future specialist through the studied topic. The construction of teaching technology is related to the selection and composition of teaching materials, the creation of the methodological framework necessary for the implementation of the developed project.

P. I. Obraztsov In his article "Professional-oriented educational technology: design and

construction features" [4] presents the following algorithm for the design and construction of educational technology:

- a) definition of the purposes of diagnostic training - description of the expected didactic result in the measured parameters;
- b) substantiate the content of training in the context of the future professional activity of the specialist;
- c) determine the structure of the content of the educational material, its information capacity and the system of semantic connections between its elements;
- d) selection of procedures for monitoring and measuring the quality of curricula and methods of individual correction of educational activities;
- e) technological presentation of the project of educational technology maps.

Based on this algorithm, it is possible to present the process of designing and building a professionally oriented technology for teaching students of the specialty "Engineer-builders" in graphic sciences in the form of diagrams. This diagram takes into account the logic of the competency approach in designing teaching technology.

The main objectives of teaching graphic sciences are defined as the development of components of the professional competence of the future specialist in the learning process. However, a number of conditions are regulated:

Learning objectives should be consistent with the list of components of professional competence developed during classes in graphic sciences and be diagnostic.

Pedagogical innovations and pedagogical reforms are closely linked. In our view, innovative pedagogical activity is not only an important condition for reform, but also a means of preparing for reform, as it serves to form in teachers a mindset and activity focused on innovation.

In this connection, it is worth mentioning the theory of the gradual formation of mental movements. This theory has been directly applied in the implementation of the management function of education in higher education institutions. The theory of the gradual formation of mental movements in the process of our research has made it possible to distinguish the most optimal, purposeful material, to plan the educational process optimally, to see the innovative aspects of education.

Some scholars interpret innovation and creativity as equal concepts. In fact, creativity is a new approach, the ability to quickly adapt to the lessons and master them quickly.

By diagnosing the process of training future professors and teachers in higher education institutions, analyzing the situation in practice, we have identified the following factors of a competent approach to innovative training of future college teachers.

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Orientation of educational motivation in future teachers in relation to pedagogical disciplines;

Professional motives and professional-pedagogical orientation of students;

Methods of qualimetric assessment of students' knowledge, skills and abilities;

Conditions for the formation of competencies in professional pedagogical activity in students (person-centered interactive education, creative clubs, project competitions, professional orientation circles).

We have formed a conceptual model of a competent approach to innovative training of future college teachers, which combines the factors of formation of professional competence in future teachers and the content of innovative training. The basis of this model is a complex program "Innovative forms, methods and technologies of organization of educational work in higher education institutions", which combines the model of professional activity and competence levels of future civil engineers.

In the complex program "Innovative forms, methods and technologies of organization of educational work in higher education institutions" the following tasks were set in the fall:

In the learning process:

implementation of lesson projects based on informative, problem-based, playful elements in order to form the levels of professional competence in the innovative training of students;

In the process of teaching pedagogical disciplines, case studies related to the future practical activities of future teachers have been developed, and the main focus in the criteria for assessing students' knowledge is to highlight the importance of theoretical knowledge in practice;

In the process of independent learning:

implementation of project assignments aimed at professional activities;

Conducting student projects on "My initiative in education."

In addition to the auditorium, the activities of the student club "Insight" (Appendix b) and the circle "School of Skills". The circle of "School of Skills" focused on the following issues:

Conclusion.

Innovative approach to the formation of professional and pedagogical competence of specialists of higher education institutions in modern conditions is associated with a number of issues (orientation of students to pedagogical and psychological disciplines, professional pedagogical orientation, meeting professional and educational needs, social order and state educational standards).

Specialist training is a complex interdisciplinary system-structural process that involves general, psychological, pedagogical and subject-based training based on the innovative orientation of the tasks of the modern educational process, constant innovative and traditional content dialogue, innovative needs of society and the deep characteristics of students and teachers.

In the process of innovative training, the student learns the meaningful foundations of innovation in pedagogical activity, which ensures the teacher's activity as a subject of professional labor. The evolving tasks of innovative training affect the innovative orientation of future engineers-builders in their thinking, pedagogical potential and innovative perception, creative approaches to pedagogical activity.

Competent approach to the training of future civil engineers depends on the following factors: diagnosing the process of training future civil engineers in higher education, analyzing the practical state of student training.

Professional motives and professional orientation of students;

Self-professional pedagogical education and differentiation;

Methods of qualimetric assessment of students' knowledge, skills and abilities;

It is expedient to prepare conditions for students to form competencies related to professional pedagogical activity (person-centered interactive education, creative clubs, project competitions, professional orientation circles).

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