

STRUCTURE OF PROFESSIONAL COMPETENCE OF ENGINEERS AND SPECIALISTS OF HIGHER EDUCATION CONSTRUCTION INSTITUTIONS

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Abstract. *In the article, various approaches to the concept of competence, types of professional pedagogical competence, its structure are analyzed analytically, and the ways of professional formation of future experts in the field of construction are reflected in the educational process.*

Keywords: *competence, construction, buildings, construction objects, professional competence, qualities of professional competence, self-development, self-management.*

Introduction. In the conditions of the fundamental reforms implemented in the Republic of Uzbekistan, improving the professional competence of personnel by providing quality education has become a priority. At present, in higher educational institutions in the field of construction, young specialists who meet the requirements of the time are trained not only with deep study of theoretical knowledge, but at the same time, skilled engineers who have great human qualities, are able to enter into transactions, and master their work thoroughly requires a lot of attention to training specialists. Especially, this requirement of the present time emphasizes once again the need to train each future construction worker as a civilized person with high level of professional competence, armed with high pedagogical knowledge as well as ethnic knowledge and technical skills. After all, in a situation where the President and our government are paying a lot of attention to higher education and the construction industry, it is important to find the optimal ways and methods for the formation of professional competence in future pedagogues-specialists and engineers, and boldly introduce them into practice and the teaching process. is required.

President Sh.M. Mirziyoev's decree dated back to June 5, 2018 "On additional measures to improve the quality of education in higher education institutions and ensure their active participation in comprehensive reforms implemented in the country" and in the decision PQ-3775 "Starting from the 2019-2020 academic year in higher education institutions, appropriate measures have been developed to establish specific mechanisms for the introduction of the principle of "the level of student mastery as the main criterion for evaluating the work of professors and teachers" the task of "exit" has been defined and increases the responsibility of professors and teachers of higher education institutions in relation to their profession.

The main goal of studying the professional competence of specialists of educational institutions is the role of professional competence of specialists in the educational process and knowledge about competence, qualities of professional competence, self-development, self-management. deeper formation, help to acquire high national communication techniques and culture, and ensure that they have a mature qualification in professional competence. Because today's personnel in the field of construction is one of the main participants of the fundamental changes taking place in our life. it is necessary to be a person who knows.

For this reason, in this scientific article, based on the results of scientific studies that serve to justify the necessity of pedagogical competence, the further increase of the demand, the training of highly qualified specialists and engineers in the field of construction, on the basis of the various

definitions given by experts and engineers, future engineers and specialists is to search for optimal ways of forming this pedagogical quality.

Brief analysis of scientific works of other scientists on the topic.

V.I.Baydenko, E.V.Bondarevskaya, I.A.Zimnyaya, V.V.Kraevsky, I.Ya.Lerner, G.R.Lomakina, V.A.Slastyonin, V.Ya.Sinenko, A.V.Khutorskoy, T.S.Zelenetskaya, D.V.Ermakov, M.A.Choshanov, E.A.Tarkhanova, A.K.Markova, L.M.Mitina, B.Nazarova and a number of other researchers based on their research goals made engineers and specialists of educational institutions the object of research and created theoretical and fundamental bases. In their research, the concept of competence was interpreted differently by pedagogues and psychologists. Of course, if we analyze the specific features of the training of specialists and engineers in education, it is necessary to clearly describe the essence of the concept of "competence", and for this, a detailed comparison and classification of the definitions given to this term is required.

The scientific novelty of the article is that the author found that the formation and development of professional pedagogical competence in the field of construction is first of all based on the presence of professional knowledge, skills and interest in the field of construction, and through the effective organization of pedagogical dialogue, taking into account the age characteristics of learners: in the study, that the professional competence of specialists and engineers of lim institutions was studied as a special research subject; the organization of the educational process through the development of professional competence in educational institutions as a research object and the development of specific social-psychological criteria that determine the effectiveness of the qualities of professional competence; the analysis and summarization of the scientific and theoretical sources related to the professional competence of specialists and engineers of higher educational institutions based on certain criteria, and the role of competence in the educational process and its qualities, self-esteem through the further development of their professional competence in the research of the range of average general and comparative typical indicators related to self-development, determination of self-management, and the development of appropriate scientific and practical recommendations based on this.

Research object. Samarkand State University of Architecture and Construction Engineering processing and construction, Environmental engineering, Geomatics engineering, Civil engineering (by types of activity), Professional education: Construction engineering (by types of activity), Professional education (Engineering Communications), Occupational Safety and Health Engineering. They are students of the graduate course of architecture and construction, education. "Professional motivation" methods (A.A. Rean's modification of K.Zamfir's method) were used in the research.

In particular, we have reached certain scientific and psychological conclusions by summarizing the nature of the scientific results achieved by the above-mentioned researchers, their future use in pedagogical practice, and our own experiences.

It should be said that the concept of competence is analyzed in the sources based on different interpretations. In particular, according to T.S.Zelenetskaya, competence is the integral characteristics of a person that arise in the process of education and socialization and are manifested in his knowledge, general abilities based on experience, and effective organization of activities, focused on his independent and effective participation in activities.

Researcher D. Ermakov evaluates competence as an opportunity to provide holistic personal education characterized by the following characteristics:

operativeness and mobility of knowledge, the ability to apply and combine each specific situation, taking into account its various aspects;

readiness to make a decision, the ability to choose a convenient method in the given situation;

communicative ability, ability to establish a strong relationship with other persons within the scope of activity;

the ability to develop one's own creative abilities, striving to master new aspects related to certain activities.

The presence of the mentioned abilities, qualities is emphasized at the level of the criterion of a person's ability to successfully work as a pedagogue. A number of researchers state that the basis of competence is the knowledge acquired at various stages of the educational process and quickly applied in various situations encountered in life they emphasize.

For example, M.A. Choshanov "Competence is not only having knowledge, but also striving to regularly develop and update this knowledge, to apply it in specific situations, that is, to have operational and mobile knowledge, critical thinking, convenient, effective is to have the ability to make decisions and reject lies," he says.

The above-mentioned ideas do not negate each other, but serve to complement each other, reflecting the structure of the teacher's professional competence from different points of view. Professional competence, as an important quality of an engineer and specialist, is acquired more and more deeply as a result of education and professional experience in the future. From the conclusions, it can be said that the educational process should be organized not on the basis of "pedagogical influence" but on the basis of "mutual cooperation", and the pedagogical competence of the teacher is of decisive importance.

A sculptor prepares clay before making something, a builder practices. And the teacher should "prepare" himself for the lesson before each lesson. For this, before the lesson, he should get rid of all unnecessary stimuli (imagination and thoughts) by means of will power. That is, it is desirable for him to create a "working, pedagogical-spiritual vacuum" around himself, to put his nerves in order, to create a positive mood.

Positive psychological qualities for the organization of the lesson at a high level: the distribution of attention, that is, the simultaneous implementation of activities in two or more objects or their control, and the shift of attention, that is, as a result of setting a new task, it is important to shift attention from one object to another or from one activity to another.

It is possible to closely monitor the students, to determine their level of perception, to get information about the specific work style and the result of the study activity. This can be determined by looking at the students. The use of mime and pantomime elements in the lesson leads to positive results. In this case, looking at students, tilting the head back, forward or to the side can perform certain tasks. It is appropriate to teach students what these elements mean.

For example, E. A. Tarkhanova, while analyzing the professional competence of the future pedagogue, reveals his ability to solve problems arising in real situations in professional pedagogical activities in the field of construction using his knowledge, professional and life experience, and interests.

This analysis cannot determine the difference between the competence of a future pedagogue and a practicing pedagogue to a certain extent. In our opinion, the competence of a future pedagogue and practicing pedagogue primarily relies on pedagogical experience based on professional knowledge in the field of construction, and thus it is necessary to think about its levels. Preparing for the lesson, it is advisable for the teacher to assess his capabilities and to organize the work on this basis, taking into account which points of the new topic should be emphasized. Measuring the possibilities in this way determines the level of the teacher's professional training, physical condition, and pedagogical talent. The amount of integrity of personal and professional

qualities shows the limits and range of the teacher's capabilities. The level of professional training of the teacher becomes a great activating (or inhibiting) factor in education.

In addition, it is important for the teacher to conduct an analysis of his actions, that is, from time to time, it will be useful to videotape a certain lesson and analyze the obtained material from beginning to end.

The choice of the way to quickly acquire the engineering and professional profession plays an important role in the formation of pedagogical competence. After all, pedagogical competence is a pedagogical product that ensures the clarity of the goal, the integrity of the subject-object relationship. At this point, it should be recognized that its formation and improvement is a complex and long-lasting process. This process requires the teacher-educator to acquire deep pedagogical-psychological, theoretical and methodical training, to regularly read pedagogical information diligently, and to learn to use theoretical and practical pedagogical achievements in his work.

Professional knowledge and professional training are formed in the process of training in engineers and institutions of higher education, and professional skills and professionalism are acquired in the process of practical activity of an engineer and specialist.

The formation of professional competence occurs through the content of education, as well as professional qualifications and skills in the field of construction. As future pedagogues, analyzing the professional competence of students in the field of construction, we imagine them as follows:

an intermediate result that allows to compare the quality of training and the planned result at any stage of professional education;

the professional training of the future pedagogue and the goal of education is expressed in the model of a graduate of a higher educational institution.

In the present period, the quality of education, which is in the leading place in the social development of society, is considered by many engineers and specialists as a component (component) of professional competence of an engineer and specialist. The quality of education depends on the formation of professional competence in the field of construction and at the same time has a significant impact on its structure.

In her research, A.K. Markova highlights the important components of professional competence in the field of construction. These include:

the ability to engage in high-level activities with special or professional competence and at the same time possess not only special knowledge, but also the ability to apply this knowledge in practice;

socio-professional competence, the ability to use accepted communication methods in the team, to establish joint professional activities and cooperation;

personal professional competence, ability to face professional problems, self-development, having a personal outlook;

individual professional competence is characterized by readiness for professional development, professional development, creation of innovations and possession of temporary professional motivation.

One of the important qualities that determine the level of professional pedagogical competence of a teacher in the field of construction is the team management style. A democratic style is considered a positive style in managing the student body. Although the proportion of acquired knowledge is less, its quality and the need for students to work together are much higher, which is a modern interactive method. The authoritarian pedagogical method leads to the achievement of much higher results of educational activities in the team, but a relatively

unfavorable psychological situation can emphasize the priority of power and lead to the increase of neurotics in the team.

In addition to these, three more styles of teacher's attitude are highlighted. The stable-positive style of the teacher is a stable emotional-positive attitude towards students, caring for them, helping them in times of difficulty, proactively reacting to deficiencies in academic work and behavior, communicating with children manifests itself in keeping calm. A teacher belonging to this group shows bright pedagogical talent, respect for children and can achieve high educational results.

A teacher belonging to a passive positive pedagogical style is manifested by an ambiguously expressed emotional-positive attitude towards children. Such a teacher does not analyze the quality of each student's knowledge acquisition, does not try to correct shortcomings, or encourage students who are learning well.

The teacher's unstable attitude toward children is manifested by the situational dependence and the general emotional state. Teachers belonging to this group sometimes get attached to their own moods and experiences, that is, the assessment of students' personalities and their educational activities depends on the situation formed at that moment. Therefore, having knowledge about management attitude styles can be an important factor in the formation of professional competence in the field of construction in future pedagogues.

Researcher L.M. Mitina describes pedagogical competence as follows:

active (individual methods of responsible and independent implementation of knowledge, skills, professional skills and pedagogical activity);

communicative (creative ways of implementing pedagogical communication);

personal (work on yourself, self-development skills).

In our country, the research conducted by B. Nazarova on the professional competence in the field of construction specific to the pedagogue and its specific aspects is of special importance.

According to the researcher, the professional competence of a pedagogue is based on the following structural foundations:

special or professional competence (organization of professional activity at a high level);

social competence (collaborative organization of professional competence, social responsibility);

auto-competence (ability to develop oneself socially and professionally);

extreme professional competence, that is, the ability to take the right path in unexpected situations.

The professional competence of a teacher in the field of construction is formed, first of all, by training and training an engineer and specialist of a specific educational institution. The training of such engineers and specialists requires a holistic conceptual approach to the profession (a clear idea of how and what to teach), the ability to appreciate work (motivation to teach), to optimize the educational process, self-management, self- -requires education of such characteristics as self-development and self-improvement.

A teacher should always pay serious attention to his pedagogical skills, intellect and culture, and constantly check the level of his pedagogical skills, professional tasks, and regularly search for optimal ways to penetrate the minds and hearts of students. necessary.

To implement the tasks set in the research, we used experimental research methods combined into stages.

Determining the professional competence of engineers and specialists of educational institutions is an important psychodiagnostic event, in which the psychological preparation of the

pedagogue in working with students is studied. For this purpose, we used the "Professional motivation" methodology of K.Zamfir modified by A.A.Rean.

This methodology is used to diagnose the level of motivation in relation to professional activity in the field of construction, based on the concept of internal and external motivation. When talking about internal motivation, it is understood that the activity is important for the individual. If the motivation of professional activity is based on the satisfaction of other needs (motives of social prestige, monthly salary, etc.), in this case, external motivation is understood. External motives are divided into external positive and external negative motives. External positive motives are undoubtedly more effective.

This methodology consists of an answer sheet, which includes 7 questions and provides answers to each question according to a five-point system. Based on the results obtained at the end of the research, the motivational complex of a person is important: the mutual ratio of internal motivation (IM), external positive motivation (TIM) and external negative motivation (TSM), that is, the mutual ratio of three forms of motivation.

Based on this methodology, as a result of our experiment conducted with 1st-level students in the field of pedagogy, that is, 48 respondents, we studied the degree of motivation of their chosen pedagogic profession in the field of construction. As a result of processing the achieved indicators, the following was determined.

14 respondents (26%) showed $ISM > TIM > IM$, which indicates that they have a relatively low level of professional motivation. 18 respondents (42%) showed $IM > TIM > TSM$, which showed that professional motivation is forming in them at a "good" level.

16 respondents (32%) showed a high level of motivation $IM > TIM > TSM$. It should be said that the next two indicators are very close to each other, but even so, the last motivation level combination is the most optimal.

Based on the analysis of experimental results, we came to the following conclusion: the effectiveness of the professional activity of engineers and specialists of educational institutions directly depends on the characteristics of their professional and personal self-evaluation, professional motivation;

in our opinion, the obligatory condition of the teacher's professional competence is the teacher's psychological preparation for working with students. Researching the problems at this stage allows teachers to apply the necessary measures to provide psychological support;

the teacher's psychological competence is directly related to the formation of the skills to adequately assess the individual psychological characteristics of students.

The teacher is not satisfied only by arming his students with knowledge, but also influences them with his behavior. His intellect and culture, honesty and humanity, spiritual qualities should be accepted by students as a benchmark. A teacher should be able not only to study his group and individual students and to make their correct description, but also to determine the development prospects of the group of students and each of its members.

Accordingly, the formation of pedagogical competence of a person in a higher educational institution is carried out in three main directions:

basic training (general professional knowledge, qualifications and skills);
methodological culture;
pedagogical creativity.

Arming future pedagogues through the mentioned methods will serve to ensure their personal and professional development.

It can be concluded from the results obtained at the end of our research that:

the high professional competence of the pedagogue ensures the effective and successful organization of the educational process. In order to gain professional competence, it is desirable for a pedagogue to consistently develop himself;

the professional competence of a pedagogue should be consistently and effectively formed not in the process of practical activity, but in the process of education in higher education institutions, especially during the period of pedagogical practice;

the professional competence of future pedagogues requires the creation of special conditions and environment, which requires the use of different work methods, the means and factors of effective education are taken into account, using continuity and consistency, practical and laboratory training, in each type of independent educational training, it is desirable to form it scientifically and methodically based.

We found it necessary to offer the following.

Pedagogical practice plays an important role in professional training of future pedagogues in the field of construction. Therefore, we think that it is necessary to pay more attention to the quality and effective organization of pedagogical practice of students. That is, to increase the number of study hours of specialized subjects in the curricula of professional education in the field of construction, as well as to give ample space for practical training along with theoretical hours in the teaching of specialized subjects. It is desirable to organize them mainly in an interactive form, in the form of modeled pedagogical situations.

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