Theoretical foundations of students' preparation for professional activity in higher educational institutions

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Abstract. The purpose of the article is to improve the quality and efficiency of education in the world, to pay special attention to the widespread use of pedagogical approaches in the processes of supporting students' education, rapid changes in the socio-economic sphere, to eliminate the problems of improving the education system, and at the same time to identify the possibilities of using innovative technologies in education. The issues of forming the necessary professional competencies on the basis of building an innovative model of technological processes for training future personnel and improving the content as a result of applying didactic, experimental, model, didactic, methodological, and socio-psychological approaches were discussed.

1 Introduction

Special attention is paid to the wide use of pedagogical approaches in the processes of improving the quality and effectiveness of education in the world, supporting the education of students. Rapid changes in the socio-economic sphere, the elimination of problems of improving the education system require special attention. Bunda also plays an important role in ensuring the integration of students into natural science, general scientific and specialized disciplines, designing events and processes using innovative technologies, forming compensations, such as construction, research and improving methods of preparation for professional activity.

Based on the pedagogical experience of the leading countries of the world, it is important to prepare future engineers for the formation, design, construction and types of research activities of the necessary professional competencies based on the construction of an innovative model of technological processes. In particular, it is especially important to improve the didactic provision of education based on the integration of science, to base events and processes on active, mathematical and strategic approaches. In this regard, automation and control of technological processes and production in higher educational institutions necessitates the formation of such professional competencies as design, construction,

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research, in accordance with the requirements of the labor market through the effective use of software, educational methods and technologies in preparing students of the educational direction for professional activities in the labor market.

Special attention is paid to the organization of the educational process based on modern requirements in our country and the training of highly qualified personnel through it. In particular, it focuses on the study of technical disciplines that are important in preparing students for professional activity. This will serve to improve the methodology of training future engineers for their professional activities on the basis of methodological approaches, the development of methods for assessing the qualities inherent in the specialty automation and control of technological processes and production, as well as the level of preparation for professional activity, the development of design, construction and research professional competencies of students.

The process of formation and development of vocational education, its patterns and trends, as well as the problems of preparing education recipients for professional activity R.H.Juraev, U.I.Grace, Z.K.Ismailova, N.A.Muslimov, K.T.Alimov, Sh.E.Gurbanov, A.R.Khodzhabaev, D.Zh.Sharipova, Sh.S.Sharipov, S.K.Kachkhorov, R.D.Shodiev, M.B.Urazova, O.A. The fact that the study was conducted by Kuisinov and other local scientists-teachers, while at the same time, the time devoted to the development of vocational education, one of the CIS scientists S.Eats, Batishev, A.P. Belyaeva, K.Eat, B.S.Gershonsky, E.F.Zeer, M.M.Zinavkina, S.M.Markova, Yu.N.Petrov, D.V.Chernilevsky, V.A.Venikov, B.A.Glinsky, A.A.Zinoviev, V.A.Stoff and others conducted research. The analysis of their work shows that when developing methods of preparing students for professional activity, it is desirable to rely directly on innovative technologies.

The analysis of the existing practice in a higher educational institution from the point of view of professional activity provides the student with ready-made information only in relation to the qualitative characteristics of the original, in accordance with the content and orientation of professional activity organized in the educational process, which theoretically does not form an understanding of what professional activity is. The future specialist will have to independently look for the initial professional situation and build his model, conduct an experiment with the model, and when solving a number of professional issues, he will receive the information that he will need to make a referra [5, 95].

Students with professional education and knowledge should be able to::
-be able to use the mathematical apparatus that can be found in the literature on the specialty;
- to be able to convey the results applied in practice - the implementation of technical and technical processes to a high-quality completion;
-must have the right technical intuition, which will help in the application of technical skills, that is, be able to choose the necessary equipment specific to technical processes, and determine the useful path that is formed in practice, be able to anticipate the difficulties that arise along this path.

Teaching professional activity meets the following basic principles of teaching: leads to science, the adaptation of students ' knowledge to the level of modern science; creates a correct reflection on the formation of the scientific worldview, innovative techniques of knowledge of reality in future engineers; demonstrates the role and importance of applying practical orientation, diverse practical knowledge, skills and skills based on innovative technologies.

The specialist must know the technology of the production process and important aspects of each branch of production, have practical professional skills. Professional pedagogical education, pedagogical and other types of special vocational education (technical, economic, etc.) differ. A teacher of vocational education should have the professional skills of a working profession, unlike specialists of the national economy, and also be able to teach this to future engineers.

When studying mathematics, as well as subjects of modeling natural and socio-economic processes, as a general method of educational activity, taking into account the possibilities of implementing integrated connections, the following intellectual abilities were identified that future engineers should possess: be able to study the situation, translate the situation into mathematical language, be able to implement solutions.

2 Methods

Forming the above skills in future engineers, we will develop in them such general intellectual techniques as comparison, generalization, analysis, abstraction. These methods form the basis of technological processes in professional activity.

The use of pedagogical technologies helps students to develop the following: general intellektual techniques (comparison, generalization, analysis, abstraction); generalkas professional competence (research, knowledge of design, execution) (research, design, design). Existing literature on the preparation of future engineers for professional activity in the specialty was analyzed (modeling of educational, economic, technological and other processes).

As a result of the carried out experimental and test works, a model of professional activity of students in higher educational institutions was developed and the essence of its components was highlighted [6].

the model of preparing students for professional activity in higher educational institutions includes the interrelation of modules: professional and methodological (methodological approach and the principle of improving students' professional activity, features of implementation into practice); problem-content technical, technological direction, description of professionally practical and practice-oriented educational sciences that form the technical outlook and professional competencies of students in accordance with the curriculum (character);; organizational and technological (organization of educational and practical activities, ensuring the interaction of extracurricular and classroom work of students, the development of additional educational infrastructure, the development of forms of research (technical and creative) activities of students; result-criterion (monitoring the evaluation of efforts to improve the technical outlook of students).

The structure of the foundations for the improvement of the technical worldview and professional competence in the students of the technical direction in higher educational institutions refers to the unity of the subordinate structures as follows:

Valuable attitude from the point of view of compliance with technological norms in the formation of motivational technical worldview, positive attitude to creative initiative in professional activity, teaching the search for original ways of solving practical problems of tecnology;

master the system of professional knowledge, methods of solving creative tasks, master the theory and technology of solving inventive tasks, develop creative imagination, create a design project and technology for implementing the author's idea, conduct a systematic analysis of professional tasks, etc.; solve the specific task of independently creating creative and procedural skills and abilities, as well as increasing the ability to create simple ideas, their implementation brings to a qualitatively new level of professional activity.

In accordance with the above-mentioned structure of the creator (student) of the technological direction in higher educational institutions, the criteria for assessing its formation are the following: axiological (responsible attitude to the process and results of professional activity, the desire to creatively solve professional tasks, etc.);

creative-Cognitive (the ability to carry out a systematic analysis of professional situations, the ability to develop unconventional methods of solving problems of labor activity, the active use of the method of solving inventive problems in independent professional activity);

operation-active (the ability to independently find non-standard solutions to production problems, the ability to create a specific design product, professional and artistic activity, as well as the ability to create and implement new innovative ideas in the field of design).

The materials of our research allow us to identify the following main groups of tasks of professional choice and self-determination of students: informational, educational, diagnostic (ideally, assistance in self-knowledge); moral and emotional support of the optant. These tasks are solved at different levels of complexity and have their own specifics:

1) the task is solved "instead" of the optant, he takes a passive position and is not a "subject" of professional self-determination;
2) the task is solved "together" with the optant - this is a dialogue, interaction, cooperation, which still needs to be reached and, if successful, he is already a partial subject of professional self-determination;
3) the task is solved in terms of personality diagnostics and formation of the optant's readiness to choose a profession, and he becomes a genuine subject of professional self-determination.

Assignments that allow students to think technically (analysis, synthesis, comparison, generalization) are important for actively processing the acquired knowledge. They provide an opportunity for the active phase to follow the relatively passive phase of technical knowledge acquisition. Completion of practical tasks or work independently and presentation of results allow to effectively develop technical thinking. In this case, we recommended the use of a number of practical tasks, such as "Find the similarity of technical objects", "Assistance", "T-Scheme" [9].

3 Results and discussion

Professional orientation at the present stage of socio-economic development of society is one of the means of increasing the adaptability and competitiveness of citizens. It is determined by the focus on the formation of conformity of a person's professional claims and the situation on the labor market, the activation of a person's opportunities to ensure individual employment, the formation of motivation for vocational training as a means of increasing job security. In other words, professional orientation becomes an essential element of employment policy.

Usually, career guidance structures have a clearly expressed orientation towards ensuring the choice of an educational or professional path. But it is more preferable to focus on education, orientation in the areas of professional work, social and personal development within the framework of a unified career guidance system. Such an integrated approach is especially relevant for conditions of social and economic instability, when professional orientation cannot be distinguished from social orientation.

Professional orientation, as a field of practical activity, serves two main purposes:

1) social and economic protection of the individual, because a person who has chosen a profession in accordance with his interests, inclinations and capabilities, masters it more successfully and sooner achieves tangible results both in professional and material aspects;
2) strengthening the economic power of the state through a more rational distribution and use of the country's labor potential.

The end result of career guidance work is thus socio-economic, giving real benefits to both the individual and the state as a whole.

Professional orientation should be considered as a continuous process and an important element of education aimed at helping all people to make the right choice of education and the field of professional activity. It should provide everyone with the opportunity:

- realize your interests and abilities and learn to set real goals for yourself;
- to take a course of education, preparatory or continuing, corresponding to these goals;

- to make decisions both at the initial and subsequent stages regarding his profession, which would lead to a satisfying professional activity;
- facilitate the transition from education to work at any level or stage [8].

4 Conclusion

In conclusion, it can be said that the model of training for professional activity in students of technical direction in higher educational institutions and its components have a creative, technological worldview capable of independently operating in the process of implementation, have a professional, creative attitude to society, professional and personal, technological qualities have been formed. With professional qualities, personal qualities harmonize, increasing the level of professional activity in students, the development of the technological worldview to a high level of quality.

Higher education is a responsible organization that prepares specialists for all sectors of the economy. Therefore, the problem of organizing the educational process in these educational institutions on the basis of new innovative technologies is topical. The only way to solve this problem is solved by the wide application of modern pedagogical technologies to the educational process. A characteristic feature of pedagogical Technologies is that it is necessary to emphasize the ease of implementation of education on the student's opportunities and activities, that is, the interaction of two educational participants-teacher and pupil or object and subject.

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