

## PREPARATION OF SPECIALISTS IN VOCATIONAL EDUCATION FOR PROFESSIONAL ACTIVITIES ON THE BASIS OF THE DUAL SYSTEM

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**Abstract.** *In addition to social economic developments in our country, today's educational programs have been radically changed and updated, taking into account the modern achievements of modern education, science, technology and technology, economics and culture in the world, modernizing the educational system, structurally rebuilding it.*

**Keywords:** *professional education, dual education system, engineer-educator, methodology, phenomenology, integration.*

A number of scientists who have studied engineering and pedagogical professional education say that its emergence and development as an independent field of Education has been of an empirical nature over the past years, that is, it has not had scientific-theoretical and methodological evidence-proof to the extent required. Therefore, it is no exaggeration to say that a new qualitative indicator of engineering and pedagogical professional education is relying on a scientific approach in its development and implementation. Research in the field of engineering and pedagogical professional education has an increasingly deep and comprehensive nature, which, in turn, can provide a full-fledged scientifically based content in the training of teachers of professional education, provide it with a solid methodological basis.

In current social practice, education is valid as a set of many systems. The indicators of the systematicity of education in the normative legal aspect will be as follows:

- Level of educational content;
- Level of Education Management.

In accordance with the first indicator, systems of preschool, general education (primary, basic, unfinished secondary), professional (secondary special, higher, post-graduate) education, etc. are distinguished. In accordance with the second indicator, regional, municipal and other systems of education are considered.

These systems have an isomorphic nature in relation to the country's education system, that is, they are similar to each other and have mutually identical structural features, and therefore can be considered in all aspects characteristic of education as a whole.

Another indicator of systematicity in the practice of alternative professional education is Real, if it is also educational specialization. Although the concept of specialized education is not reflected in legal regulatory legal acts, it has a rich tradition. Chunoichi, specialization education arose in a certain cultural and historical situation, that is, in a period when education as a whole was aimed primarily at meeting the needs of production. Therefore, this circumstance determined the features of its organization, management and validity, and many educational institutions specialized not only in a specific area of the national economy, but also possessed sectoral and departmental belonging.

When developing the theoretical foundations for the construction of a Dual system of training specialists in engineering and pedagogical vocational education in higher educational institutions, we proceed from the point of view of its compliance with:

- to the needs of social production of educational goals;
- organizational approach to the socio-philosophical, scientific worldview foundations of educational activities;

- to the didactic foundations of the methodological nature of engineering and pedagogical professional education.

- Clarification of the main, conceptually significant ideas that meet these requirements was carried out on the basis of principles of "internal", phenomenological and methodological, as well as social pedagogical nature, which have a decisive influence on the development of engineering and pedagogical professional education as a special integrative field of professional education.

For the construction of a Dual system of engineering and pedagogical professional education in higher educational institutions, the rule that continuous engineering and pedagogical professional education allows to optimally embody humanistic principles with the sphere of production and the needs of society is of conceptual importance.

Of particular importance in engineering activities is the issue of responsibility. As a civil servant, the engineer continued to carry out the tasks that were usually set before him, despite the fact that there were doubts about the quality of the product being developed by him or the hidden danger to nature or man. Despite the fact that the laying and solution of engineering issues is laid by the engineers themselves and methods of solving are found, it is approved by the state.

Today, the analysis of the modern socio-pedagogical situation in terms of determining the conditions and factors that directly and figuratively affect the development of engineering and pedagogical Professional Education testifies to the fact that the main directions and goals of its renewal and improvement are determined by the following leading areas of evolutionary development:

- the increasing importance and humanistic orientation of education in modern conditions, in turn, requires its content and quality, the introduction of optimal forms and technologies of Education;

- the change in the role and place of technology and technologies in the development of mankind, their importance in overcoming the crisis situations of man-made civilization and, ultimately, the origin of the need to change the ideology of technical, in particular engineering education; the need for the formation of a certain type of socialization, which ensures the stabilization of evolutionary processes and, ultimately.

The Dual system of engineering and pedagogical vocational education in higher educational institutions requires practical consideration of the conceptual model in determining didactic conditions, which reflects the construction of the conceptual-theoretical foundations of the Dual system of training of engineering and pedagogical personnel in higher education, as well as the structural-component features and interconnection and involvement of the educational process.

According to modern systemic-pedagogical ideas, the educational process is systematically interconnected and it is advisable to interact with the following components: 1) objectives of activity, 2) Teacher, 3) Student, 4) content of activity, 5) forms of activity, 6) means and methods

of activity, 7) result of activity. The systemic feature of the pedagogical process is its integrity, which means the internal connections of the components of all its elements. The integrity of the pedagogical process is the external and internal (direct and reverse) connections between its elements (structural units). The structure of the pedagogical process is characterized by a strict and logical arrangement of elements in the system.

The Dual system of engineering and pedagogical professional education is associated with the practical organization of the development of the composition and content of professional training of engineering and pedagogical personnel in accordance with the conceptual-theoretical and didactic foundations in a higher educational institution. At the same time, it is necessary to take into account the problems that characterize the state of this educational sphere today.

Analysis of the professional training of engineer pedagogical personnel, development of the structure and content of training personnel in the Dual system, taking into account the meaningful problems of the system of engineering and pedagogical vocational education, as well as in the form of cyclical-repetitive stages of training were discussed. In doing so, the following four main stages can be distinguished:

- Analysis of needs in preparation.
  - Development of the preparation program.
  - Implementation of the preparation program.
  - Evaluation of the preparation program.
- The use of a systematic approach makes it possible to understand not only different stages - from determining the needs of preparation to assessing the implementation of the program, therefore, the possibilities of visualizing the interconnection of these stages in the management and implementation of training.

One of the features of the Dual system is that it increases the importance of educational methods aimed at the formation of universal independent qualities. The Dual system used in the educational process remains an important didactic condition for methodological communication, which professors and students apply in practice in engineering and pedagogical professional education, and therefore requires special attention.

The content of the concept of "innovative educational technologies", Educational Innovations – a form, methods and technologies that can be used in the educational sphere or in the educational process in order to solve the existing problem on the basis of a new approach and guarantee a much more effective result than before. their types, the innovative activity of the educator. innovative activity is the activity of new social requirements aimed at solving complex problems that arise as a result of non-compliance with traditional norms or the denial of existing ideas of newly formed ideas, giving concepts about personality-oriented innovative education.

Concepts of competence, competence, founders of the competence model, an active approach to competence, a personality-oriented approach, factors, indicators and criteria that affect the effectiveness of the development of pedagogical qualifications of teachers of vocational education.

Principles of assessment: justification for educational goals, validity, truthfulness, reliability, adherence to the principles of convenience are the foundations of the effectiveness of the assessment system. The examination and evaluation of knowledge must meet certain didactic requirements. Verification nor control must be in a systematic, continuous way, which, if the requirement is not met, can lead to a decrease in the audience's interest in learning. Finding

answers to questions such as " why to evaluate", " what to evaluate", and " when to evaluate " indicates that cognitive learning objectives have been achieved (the listener's psychomotor, behavioral, and personal qualities), knowledge, skills, and skills have been further improved.

At the higher educational institution "students of The Bachelor's degree in vocational education (mechanization of Agriculture) were offered to develop a software product using the capabilities of the Visual C++ programming language. The possibilities of programming languages were comprehensively comprehended. Most of the students noted that it is advisable to develop a software product in the Visual C++programming language. The reason for this is the fact that it has high capabilities in modeling, algorithmization, visualization, formalization of phenomena and processes. An algorithmic block-scheme of the mentioned methods is developed;

- From the palette of components of the Visual C++ programming language, the corresponding components are placed in the form;

- Descriptions of the components placed in the form are given to students and program codes are entered (- application);

- Software product design is formed;

- The compilation process is carried out.

During the lesson, the orientation of professionals in vocational education using the innovative environment of the object-oriented programming language will lay the foundation for the development of excellent software products for all areas in the future.

It forms the professional skills of students of the vocational education direction, such as activating practical, creative activities, ensuring their participation in the development of electronic laboratory training programs, automation of technological processes, visualization of production personnel. When creating software products, it is recommended to use object-oriented programming languages (C++, Delphi, Visual Basic, Java Script, Python, etc.).

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