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"IMPROVEMENT OF INFORMATION-COMMUNICATION READINESS OF STUDENTS THROUGH TEACHING THE SCIENCE OF ENGINEERING GRAPHICS"

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Abstract
In this article, in the preparation of future specialists for the activities of engineer-teacher, trainer, master, innovative information-didactic forms of education, methods of automating design processes, pedagogical and technological bases for the integration of technology and information tools into a single system, and the formation of the relevant necessary skills for the formation of the necessary skills in practice imparting knowledge is explained.

Keywords: technical higher education institutions, engineering graphics, information and communication technologies, modeling.

In today's conditions, any specialist cannot achieve effective results in his professional and pedagogical activities without the use of information and communication technologies, in particular without information resources, computer programs and their support.

– The theoretical study of the state and content of education in technical higher education institutions and the analysis of the process of improving the information and communication training of students of these educational institutions with the help of the science of engineering graphics showed the existence of certain problems. In our opinion, the problems of developing information and communication training among students of technical higher education institutions based on the improvement of the teaching methodology of engineering graphics are as follows:

– that the issue of improving the information and communication training of students of technical higher education on the basis of teaching the science of engineering graphics has not yet been specially researched, the important issues in this pedagogical process have not been studied theoretically and practically;

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– the fact that the teachers who teach vocational subjects to students of technical higher education institutions are not equipped with modern information and communication technologies and pedagogical technologies, active methods of teaching, interdisciplinarity and interrelationship are not effectively used;

– lack of strong integration between education and training practice;

– lack of regular work on explaining to students the importance of information and communication technologies in the acquisition of professional knowledge and professional skills in modern conditions;

– non-conduct of educational work and non-consistent conduct of activities on the systematic use of information and communication technologies in the development of professional skills of learners throughout the continuous education process (school, college, higher education institution);

– non-introduction of the competence approach in improving the information and communication training of students of technical higher education on the basis of teaching the science of engineering graphics, lack of comprehensive communication with enterprises and organizations, institutions, and social partners;

– there is very little creation of scientific and methodological literature on improving the information and communication training of students of technical higher education on the basis of teaching the science of engineering graphics, the legal basis of cooperation with production enterprises on the development of professional skills has not been developed, etc.

Designing is closely related to modeling as a method of researching objects of different nature in their analogues (models).

Modeling is widely used in design to imagine and change objects, events or processes that do not yet exist in reality or cannot be used for some reason.

A model is a system imagined or materially implemented in such a way that it can replace the object of research by reflecting or forming it and giving us new information about this object.

As a conceptual basis for improving the information and communication training of students of technical higher education institutions based on the teaching of engineering graphics, a technological approach that provides organizational complexity and the effectiveness of preparation for automatized design was chosen.

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One of the conditions of the mentioned changes is the implementation of information and communication technologies in the specialist's professional activity. Engineering graphics is considered one of the most modern methods of research with the help of information technology development, educational and other purposes.

Engineering graphics is a rather broad field of scientific knowledge, which includes techniques, technologies and tools for creating two-dimensional, three-dimensional, as well as interactive and animated models on the computer. This requires the training of specialists who have a high level of readiness for automated design in technical higher education institutions and who can use information tools and modern information technologies to solve educational tasks, as well as production situations.

In order to solve all the problems of informatization of higher technical education, it is necessary to take a number of measures, including the preparation of students for computer-aided design. The purpose of preparing future specialists for computer design is to provide effective professional training to future specialists who are information and communication competent (i.e., who have mastered the methods of organizing education using modern information and communication technologies, using online, multimedia technologies, simulator systems, and students with the help of intelligent computer systems able to control and evaluate knowledge, design and model constructions using CAD, CAM, CAE-systems) shows that it consists in developing the personality of future specialists.

The general tasks of preparation for engineering graphics are as follows: generalization and deepening of theoretical knowledge about the basic concepts and methods of automated design of systems and objects of various complexity; learning and mastering the basics of presenting, storing, processing and transmitting information using a computer; improvement of personal computer skills and competencies; mastering the methods of working with information and telecommunication technologies; learning and mastering the methods and methods of using new information and communication technologies in professional and pedagogical activities.

Comparative analysis of curricula and programs available in higher technical educational institutions, discussion of ways of practical implementation of

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educational content based on information and communication technologies, and study of methods of professional education based on interdisciplinary communication indicate that the engineering graphics of information and communication training of students of higher technical education special trainings in the theoretical and practical direction aimed at improving the science through teaching are insufficiently organized.

In conclusion, it is important to create a system model for improving the information and communication training of technical higher education students and to determine the pedagogical conditions of using information and communication technologies in the educational process in order to increase its effectiveness.

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