

Problems in the Training of Future Engineers in the Process of Education Through Information Technologies

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Abstract

The main goal of higher education institutions is to ensure the quality of higher education, that is, to train high-quality, competitive personnel. In the era of rapid information updating, the quality of education, enrichment of education with the latest innovations, technical tools and technologies, and integration of education with modern production are of great importance in every higher education institution. One of the main components of ensuring the quality of education is the problem of ensuring the professional competence of professors and teachers. The further perspective of educational development is largely related to the issue of professional competence of educators. The information age requires every pedagogue to have sufficient knowledge and skills in ICT. In the conditions of globalization and information exchange, the study of methods aimed at ensuring the quality of education in educational models that have proven themselves in the world experience and carrying out research on their coordination with the national education system is one of the most urgent issues today.

INTRODUCTION

Globalization, international economic integration, processes of international division of labor, high-level automation of production processes are imposing new and dynamically changing demands on the existing market of educational services. Therefore, improving the competence of professors, which is considered the most important element of the system of organizing the educational process and ensuring the quality of education, is one of the most important issues on the agenda. Training and training of specialists who are competitive not only in the local, but also in the global labor market, the education system requires pedagogues to have a high level of professional competence, and to constantly and consistently improve it. As in any research, first of all we need to clarify the basic categories, namely "competence", "professional competence", "e-learning" and "e-learning environment". "Competence" (English "competency" - "ability") is the ability to effectively use theoretical knowledge in practical activities, to have high professional qualifications, to demonstrate skills and talents, and creativity. The concept of "competence" has been given a number of definitions by scientists, experts and researchers. By summarizing them, competence is the general ability and professional preparation for successful operation, which is manifested in knowledge, experience and can be defined as a set of integrated qualities based on skills. The concepts of competence and competence are interrelated and embody the concepts of knowledge, skills and abilities. Qualities such as a person's goal-orientedness, the ability to feel problems deeply, show meticulousness, and have creative thinking includes.

"Professional competence is the acquisition of knowledge, skills and abilities necessary for professional activity by a specialist and their practical application at a high level." Hence, professional competence not only special knowledge, skills and qualifications by the professor teacher acquisition, but also relevant knowledge, skills and it also implies the qualitative



acquisition of skills. Also, professional competence means constantly enriching knowledge in one's specialist field, learning information, understanding the requirements of the times, new information.

Requires the ability to find, process and apply them in one's work. The following can be cited as the basis for the acquisition of pedagogical professional competence of professors-teachers in higher education institutions:

- continuously enriches his knowledge;
- learns new information using media;
- deeply understands modern requirements;
- seeks new knowledge;
- approaches them creatively, processes them and is effective in their practical activitiesapplies;
- performs ambiguous tasks in complex processes and makes correct decisionsdoes;
- uses conflicting information rationally and appropriately;
- has an action plan that adapts to unexpected situations.

Issues of professional competence are currently one of the issues in the center of attention of experts working in the field of pedagogy, psychology, sociology and management. Summarizing their opinions, it is possible to propose a unique model of the basis of professional competence. Having studied the parameters presented in the proposed model, between them we can see the existence of self-dependence and complementarity. For example, being able to adapt to different conditions, at the same time, it is related to the correct understanding of the requirements of the time and decision-making. Modern many more characteristics directly related to the professional competence of the professor-teacher can be mentioned. At the same time, modern in every way not to create a model of a competitive pedagogue, but such a pedagogue and it is necessary to create a training model for managerial staff. It has the possibility of successful and continuous development of pedagogues and management staff ensures that.

Keeping up with the demands of the times requires extensive use of ICT opportunities in many ways. The development of electronic education is one of the most important aspects in this regard. The modern information society places special demands on the quality of teacher training. Modern pedagogues are required to be able to use information resources of the Internet in a targeted manner, to introduce the possibilities of information and communication technologies in the process of acquiring independent knowledge.

Today, e-learning is a rapidly developing field, its development began in the 1980s (in the form of distance learning and television courses) started The consistent development of technology, the complete lack of awareness of the distance difference in the educational process, and the lack of attention to the student or listener. provided comfortable level handles inside. E-learning simultaneously in the form of audio, video, slide show, Word and PDF documents and allows you to familiarize yourself with materials in different formats. Conducting webinars and communicating with teachers through chat and forums the possibilities of mutual cooperation of users are realized is increased. In education and training, eLearning systems (as a learning management system or LMS) and the ability to conduct online courses methods have become available. "on-line" courses with the help of levers and various processes such as a set of



materials for creating automatic adaptive tests can be automated. Electronic education was considered a convenient and cost-effective (free) solution that allows its users to turn continuous education into a regular, everyday lifestyle. E-learning allows even those who are already employed to further develop their careers and gain new skills.

Important changes in the field of education took place after the emergence of the Internet and its consistent entry into our lives. One of the most important achievements of technological progress is that almost everyone knows how to use smartphones (smart phones), send text messages and use the Internet. Therefore, participation and work in "on-line" courses is considered normal. To the users of bulletin boards, social networks and other various means of communication Internet "online" allows you to attend courses and discuss issues related to the studied course while providing a sense of commonality.

Electronic education is of great importance from the point of view of didactics and methodical goals to achieve efficiency through the introduction of information technologies:

- individualization and differentiation of the teaching process;
 - control of educational activities through feedback;
 - self-monitoring and evaluation;
 - Practice and independent in the process of mastering the educational material organization of preparation;
 - Saving the time of the educational process;
 - Visualization of educational information through IT tools;
 - modeling of studied events and processes;
 - performing laboratory exercises on a computer;
 - creation of an information database and its use;
 - increase interest in studying;
 - arming the learner with the learning strategy of learning material;
 - development of thinking, creativity;
 - formation of optimal decision-making skills;
 - forming a culture of information and its use in the learner
- such as can be included.

The strategic direction of the development of the education system in modern society it is intellectual and based on purposeful independent activity of a person in various fields is moral development. It focuses on 3 main tasks:

1. Reforming the education system.
2. Independent activity is the main principle of competitive education and training recognition as
3. Introducing modern information technologies into the educational process.

The need to develop professional competence in the e-learning environment:

- first of all, the market of educational services is becoming more and more competitive, not only at the national level, but also at the global level;
- adaptation of the educational process to students' needs, opportunities, level of knowledge and independent determination of the time of their education;
- the issue of improving professional competence is directly related to the quality of education;



- increasing the responsibility of pedagogues and supervisors in providing students with worldly knowledge, acquiring the necessary qualifications and skills.

Teachers training with the help of sites created for educational institutions enabled recipients to learn remotely. Education

sites created for institutions are especially difficult to participate in training sessions.

It is convenient for students who have In addition to these, students are informed they will have the culture, skills and qualifications of working with technologies.

The advantage of educational web pages is that the student himself determines the duration of the study, that is, the student starts studying at the time of his choice, learns the materials under the supervision of the teacher. The student's mastery is determined by the completion of assignments and tests. The faster the student learns the given program, the faster he will finish his studies and get a diploma. If he cannot master the program, he should work and study independently will be given the opportunity to continue.

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Electronic resources

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