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FORMATION OF PROFESSIONAL COMPETENCE OF FUTURE IT-ENGINEERS IN THE MODERN INFORMATION SOCIETY

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Abstract. *The article discusses some aspects of the information-technological competence formation of the future specialist-engineer in the information society.*

Keywords: *information society, professional competence, information and technological competence, knowledge, skills, personal qualities.*

Currently, in many countries, including Uzbekistan, is going the process of reform and modernization of technical education. The aim of these processes is the training of competitive specialists of different levels and directions. Modern industries need to be competent professionals who have a high competence.

One important area of modernization of education is the process of information that makes use of the new information technologies, methods and means of information, stimulation of all levels of the educational process, improve efficiency and quality training for life in a developed information society.

Going over to the Information Society makes changes in all spheres of human activity that alters the requirements for the modern professional specialist. The modern professional must have extensive knowledge in computer science, to know the fundamentals and prospects of new information and communication technologies (ICTs) have practical skills in the use of modern technical means of information and communication systems, information and communication, to be able to evaluate information resources for the adoption of professional solutions.

For free information, the flow in the orientation of the expert should have information competence as a component of professionalism. In a number of works of information, the competence is defined as the purpose of specialist training and a necessary component of his professional competence (E. F. Zeer, A. A. Kuznetsov, E. I. Mashbits, E. K. Henner, etc.).

Computerization of contemporary Uzbek society, on the one hand, calls for more widespread use of information and computer technologies in various spheres of human activity, on the other - requires appropriate training of professionals in all areas of the economy.

The process of obtaining a higher education necessarily includes components such as training and education. A graduate of a technical college to hold receptions computer thinking not only to work customary engineer, and grow to a leading specialist and head of production. The main factor in the formation of professional competence of the future engineer is a focused, progressive educational process organized by Information and Communication Technology (ICT). Use of ICT in education can change the educational-cognitive activity of students and enhance their independent work.

Competency issue devoted to the works of V. G. Afanasiev, I. D. Bagaeva, I. A. Winter, A. K. Markova, J. Raven, V. A. Slastenin, G. S. Trofimova, A. V. Khutorskoy and other scientists. A number of scholars examines the information technology competence (ITC) as a component of professional competence (B. S. Gershunsky, V. V. Shapkin, N. H. Asaka, A. A. Abdykadirov, H. Karshibaev, O. A. Cyzicus, T. A. Gudkov, et al.).

P. A. Bespalov determines that the ITC cannot be reduced to scattered knowledge and skills in working with computers. It represents an integral characteristic of personality, implying the motivation for the assimilation of relevant knowledge, problem-solving ability in teaching and professional activities with the help of computer technology and techniques of computer ownership thinking [1, p. 42].

Activities related to engineering design, development, processing and storage of technical documentation, its structural and graphic design, systematization and analysis of statistical information, search the normative, reference material, information exchange over networks, including e-mail, familiarity with technical information and innovations in different industrial industries.

In our opinion in the process of student learning in high school ITC can be formed as follows:

Information technology competence of the future engineer:

1. *Knowledge*

- ✓ basic knowledge in their specialty;
- ✓ knowledge of basic phenomena and processes in the study area;
- ✓ knowledge of methods of obtaining information and its transmission.

2. *Skills*

Apply information technology in their work to :

- ✓ for observations and experiments;
- ✓ represent different types of data in a clear and accessible way (drafting structural circuits, electronic presentations, spreadsheets, graphics, charts, printed material, analysis of video and audio material and presentation in digital format).

3. *Personal qualities*

- ✓ the ability to perceive new information;

- ✓ ability to think logically;
- ✓ ability to independently acquire new knowledge, to perform tasks;
- ✓ critical thinking;
- ✓ the need for vocational training, self-development;
- ✓ defining your own position;

Each component of the scheme has its own characteristics and properties that are part of integrated system. Component of «knowledge» is defined fullness, depth, systematic domain knowledge includes knowledge of ways to receive and impart information and skills to improve professional knowledge. The component «Skills» is an active application of information technology in professional activities as a means of learning and development of information culture, self-improvement and creativity. Personal qualities are determined by attitudes toward their practice; include self-awareness, self-control, self-esteem, understanding self-worth in the collective understanding of its performance, accountability for results, and self-realization in profession.

As outlined N. A. Voinova, ITC has some distinctive features:

– priority;

– dynamism (in preparation for the graduate is not enough to consider only the current state of information, it is necessary to focus on trends in information development);

– optimal (in a situation of rapid development of information society must prepare graduates for the best information; competence should be enough to cope with the professional tasks) [2, p.113].

The use of modern information technology (distance learning, Internet technology, database, business games, e-learning systems, etc.), student-activity approach to learning (student will provide the subject of how the educational process and the organization of the conditions for individual creative learning activity) will, in our opinion, to prepare specialist who can in any area of activities to be able to solve complex problems, critical analysis of the circumstances, to take deliberate action based on analysis of information available to him.

Comprehensive solution to the problem of formation of ITC will improve the quality of training, their competitiveness. Mastering the full range of qualities that makes up the competitiveness specialist, is a long and complex process. Its effectiveness is determined, above all, constant and deep interest of the students in finding, forming and consolidation in the self-qualities and characteristics, which should provide higher educational institution.

The formation of information technology competence of graduates of technical colleges, which is based on individualized learning. Carried out through the introduction of distance learning technologies based on new methods of electronic communication in the process of studying full-time students of general and special courses. This measure, in our opinion, due to the need:

– ensure a high level of integration with the global educational system and the various professional fields of international labor market, to achieve the most effective of which are now the means of electronic communication and Internet technology;

– the introduction, along with traditional and new ways of interaction between teacher and students in the virtual space of computer networks that will strengthen the mentoring functions of teaching, more motivated students to work independently, creating a constructive relationship with teachers and students from other universities in the country, as well as from abroad, the development of responsibility to colleagues and partners;

– develop graduates the necessary skills and familiarity with modern information technology, computer information processing systems, as well as solutions to social and professional problems through information and communication technologies in the information technology specialist competence.

Theoretical analysis allowed us to determine the function, purpose and structure of information technology competence of future engineers as an integrative part of professional competence of future engineers, including the activity and personal components.

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ФОРМИРОВАНИЕ ПРОФЕССИОНАЛЬНОЙ КОМПЕТЕНТНОСТИ БУДУЩИХ IT-ИНЖЕНЕРОВ В СОВРЕМЕННОМ ИНФОРМАЦИОННОМ ОБЩЕСТВЕ

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Аннотация. *В данной статье рассматривается некоторые аспекты формирования информационно-технологической компетентности будущего специалиста – инженера в условиях информатизация общества.*

Ключевые слова: *информационное общество, профессиональная компетентность, информационно-технологическая компетентность, знания, навыки, умения, личные качества.*