

Information technologies and technical disciplines teaching techniques

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The formation of Ukraine as an independent state, its national revival and the transition to market relations dramatically affects the role of specialists with higher education.

The main objective of technical education can be considered as the formation of technical thinking, and its result –scientific-based practical activity.

In industrial production professional general technical knowledge and skills are primarily required. In the existing socio-cultural conditions, labour activity is the most important sphere of self-realization and self-expression of personality. It provides the realization of the potential capabilities and abilities of an individual.

Thus, the specific feature of special technical disciplines teaching requires a teaching engineer to have both methodological and multi aspect engineering knowledge, profound pedagogical background, didactics, psychology, the fundamentals of pedagogy knowledge.

Implementation of new educational technologies into the educational process allows traditional learning methods along with innovative development, promotion of knowledge integration, creative thinking development, intensifies educational activity of students.

Technology – a system of interconnected methods for processing materials and techniques for manufacturing products in the production process. Information is one of the types of resources used by a person in work and life.

Information is one of resource types based on the ideas and knowledge accumulated as a result of the scientific and technological activity of people in a certain area and presented in a form suitable for accumulation, implementation and reproduction.

Information technology – technology of information processing, which consists of a set of technological elements: collection, accumulation, retrieval, transmission of information to users on the basis of modern technical means.

The XXI century with confidence can be called an epoch of information. Everyone knows the saying “Who owns the information he owns the world.” Moore's Law argues that every 18 months the amount of information increases by 2 times. For the problems of modern education, it means to keep up with social changes. We need to learn almost every other year and a half! This means that what you learned is important. But much more important is how fast you can learn, change and adapt to new information. It turns out that students teaching and teachers learning is necessary according all rules of modern cognition.

The use of computers and other technical means of training (educational television, video films, slides, etc.) plays an important role in rationalization of students work.

The use of technical means of teaching provides students with more intense, dynamic, creative and intensive educational work. Modern education is based mainly on a verbal way of transferring knowledge, where the perception of oral information prevails.

In a context of rapid growth of information flows and an increase in the shortage of educational time, audiovisual means allow for the same period of time to expose and absorb a much larger amount of educational knowledge. At the same time, the quality of information absorbed by students increases due to its visual aspects, highlighting in graphic charts, diagrams, slides, videos, main structural elements of processes and phenomena.

The attitude towards the technical means of education (TME) of all teachers is possible to divide into three types:

- ◆ those who easily master the TME, thus improving their activities;
- ◆ those who have attained a high level of teaching skills, but nevertheless do not refuse TME;
- ◆ those who actively refuse TME.

In Ukraine computerization of training as a technology is not yet sufficiently developed. Not the lack of computers itself is the delay here but the psychology of rejection in the need for continuous monitoring of the learning process, low awareness of the bulk of teachers in modern teaching technology. Nevertheless only computer technology makes it possible to move from average students “coaching” to the individualization of the learning process, objective measurement results and complexity of the student's work, etc.

The mass media make it possible to create rational didactic strategies – multimedia education strategies, multimedia teaching, recommendations for multimedia education, multimedia system education.

The feature that defines multimedia education is the use of different media on a certain common technical basis. This basis as a rule is a computer with internet access. And there are television monitors, video recorders, speakers, microphones, headphones, reproducible CDs among these media, provided by corresponding programs (sound cards, graphic cards, video cards). Using the opportunities of information technology, multimedia creates a real chance for an individualized learning of a student who individually determines the content of education and methods of its presentation.

Thus, for the education system of the future, the most important problem is the integration, creation of a single educational and informational space. This problem will be solved through pedagogical and information technologies. Telecommunications (e-mail, teleconferencing) provide an opportunity for students to form their own view of what is happening in the world, realize many phenomena and explore them from different points of view.

The use of technical means of teaching increases the efficiency of the educational process, enhances the absorption of educational material. Their development and application line specification is an important component of methodological work at higher educational institutions of all levels of accreditation.