Abstract: This article is about the technologies of electronic textbooks, and opinions are given about the importance of students' use of electronic information resources and the integration of education with modern production.

Keywords: technical tools, computer literacy, Internet and Intranet networks, pedagogues, computer programmers.

Introduction
In the era of rapid information updating, the issue of quality of education, the enrichment of education with the latest innovations, technical tools and technologies, and the integration of education with modern production are becoming important in every higher education institution. That's why today technical higher education institutions are making high demands on the quality of training of personnel who have the necessary knowledge in the field of their professional activity and can use it collectively.

These requirements, in turn, require the development of the introduction of electronic learning tools in the educational process of future engineers in the process of integration of our country into the world economic system, and the process of our national personnel going to the fields of the world cocktail market. By now, computer literacy has become an important sign of culture, and in the future it will become a necessity for everyone, no matter where they work. So, computer work, teaching to use a computer will undoubtedly become a general job in the near future.

Main part
Modern information technology tools include: computer, scanner, video camera, video camera, LCD projector, interactive whiteboard, fax modem, telephone, e-mail, multimedia tools, Internet and Intranet networks, mobile communication systems, database management systems, artificial intelligence systems can be introduced. Information technology tools are used in the conscious and planned implementation of certain actions. This process includes:

- a computer, as well as a printer, modem, microphone and sound broadcasting device, scanner, digital video camera, multimedia projector, drawing tablet, musical keyboard, etc. and their software;
- hardware software;
- virtual text constructors, multiplications, music, physical models, geographic maps, screen processors, etc.;
- a set of information - reference books, encyclopedias, virtual museums, etc.;
- technical skills trainers (entering information from a set of keys without looking at the keys, initial mastering of software tools, etc.).
At the center of information technology tools is the computer. Currently, computers are mainly used in four directions in the educational system:

- as an object of study;
- as technical means of teaching;
- in education management;
- used in scientific and pedagogical research.

In the educational process, computers are used mainly in four ways:

- passive use
- the computer is like a simple calculator;
- reactive communication - as a computer examiner;
- active communication - guiding the computer student and taking the exam;
- interactive communication - the computer is used as artificial intelligence, that is, when communicating with the student.

Wide introduction of modern information and communication technologies in education:

- informatization of science fields;
- intellectualization of educational activities;
- deepening of integration processes;
- leads to the improvement of the infrastructure of the educational system and its management mechanisms.
- the union of pedagogues, computer programmers, and relevant specialists into a team that creates distance learning courses and electronic literature;
- distribution of tasks among pedagogues;
- requires improvement of the organization of the educational process and monitoring of the effectiveness of pedagogical activity.
- the student acquires professional knowledge;
- deep mastery of the field of science by modeling the studied phenomena and processes;

In order to implement the technology of creating pedagogical software tools, there are a number of positive factors that confirm their superiority over traditional tools. These factors were divided into didactic, psychological, economic and physiological groups. Didactic requirements for pedagogical software tools include: scientific, intelligible, rigorous and systematic description (allowing the possibility to build the content of educational activities, taking into account the basic principles of pedagogy, psychology, informatics, ergonomics, the fundamental foundations of modern science 'providing'), continuity and integrity (it is a logical consequence and complement of previously learned knowledge), consistency, problem, demonstrability, activation (independence of teaching and the presence of the characteristic of activity), consistency of mastering the results of teaching, interactivity of communication, teaching, education, development and integrated unity of practice.

Methodological requirements include the following: taking into account the specific characteristics of a specific educational subject, taking into account the uniqueness of a certain subject, the interdependence, interrelationship, diversity, implementation of modern methods of information. Psychological requirements include perception (verbal-logical, sensory-perceptible), thinking (conceptual-theoretical, visual-practical), attention (Persistence, transference), motivation (active forms of work, high degree of visuality, constant stimulation of high-level motivation of students with the help of timely feedback), taking into account memory, imagination, age and individual
psychological characteristics (taking into account the acquired knowledge, skills and competencies, the content of the academic subject and (the degree of complexity of educational issues corresponds to the age capabilities and individual characteristics of students, protection from being affected by over-excited, nervous, mental loads when mastering the educational material).

Technical requirements include modern universal personal computers, external devices, test resources. Network requirements include "client-server" architecture, Internet browsers, network operating systems, telecommunication, management tools (individual and collective work of the educational process, external feedback). Aesthetic requirements include: orderliness and expressiveness (elements, location, size, color), functional function of decoration and compatibility with ergonomic requirements.

Specific requirements include: interactivity, goal orientation, independence and flexibility, audioization, visualization, access control, intellectual development, differentiation (classification), creativity, openness, feedback, functionality, reliability.

Ergonomic requirements include: user-friendliness, user-friendliness, screen.

1. Pedagogical software tools - construction based on the interdependence of conceptual, figurative and moving components of presentation of educational material.
2. Pedagogical software tools provide educational material in the form of a high-order structure. Consideration of interdisciplinarity.
3. Creation of opportunities to determine whether the learner has gradually mastered the educational material in pedagogical software tools based on the implementation of various controls.

Methodological requirements take into account the specific features of the subject, its laws, research methods, and the possibilities of introducing modern methods of information processing.

Conclusion

Pedagogical software tools created from subjects must meet the following methodological requirements:

In general, in the higher education system, forming the professional training of students at the level of modern requirements, improving their knowledge, skills and qualifications with the effective use of new pedagogical and information technologies is one of the important tasks of higher education.

From this point of view, in this article, the creation of methodical and practical foundations of mastering and using information technologies has been analyzed and promising directions have been determined.

References


