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The Method of Using Information Technologies in Forming Professional Competences of Students of Technical Higher Education Institutions

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Abstract: The article examines the influence of information technology on the formation of professional competencies in students. The choice of technology will help improve the quality of e-learning.

Key words: technology, motivational, cognitive, concentration, communication.

The process of scientific, cultural, political, technical unification and integration sets new goals for higher education. The main task of the educational process is to train personnel with professional competences who can work effectively in the new conditions of the world market.

Nowadays, it is difficult to imagine a student or teacher who does not use the Internet and e-mail, information retrieval and processing systems, electronic libraries and multimedia systems in their work or studies.

Therefore, it is necessary to use the Internet in the educational process only for pedagogical purposes. The possibilities of the Internet allow you to send study materials and assignments, receive files from students who have completed personal assignments and correct them on time, and always stay in touch with students. In fact, it is impossible to imagine the educational process without pedagogical communication.

In the process of pedagogical dialogue, it is necessary to create a psychological environment that motivates educational work between students and teachers during lectures, practical, additional classes, consultations and social events. At the same time, communicative communication occurs almost constantly among students. So you can use instant messaging programs like Viber, WatsApp, Telegram, etc. for a quick solution to various questions related to the educational process.

Also, the use of computers in the educational process, especially during lectures, allows to present new materials using presentations, computer models, video clips, etc. It allows not only to revive the presentation of new material, but also to provide a visual representation and perception of materials that are difficult to perceive in simple flat drawings. This brings new opportunities to the learning process.

The use of information and communication technologies (ICT) in the educational process significantly increases its effectiveness. At the same time, the computer, appropriate software and pedagogical tools do not replace traditional tools, but complement them, allowing to form a system of training manuals oriented to modern information technologies. This, in turn, creates conditions for learning in an information environment.

For example, A.I. In his work, Yakovlev states that "the introduction of information and communication technologies into the educational process significantly accelerates the transfer of knowledge and experience accumulated by mankind not only from generation to generation, but also from one person to another" [5].

I. G. Zakharova draws attention to solving a number of tasks in the use of ICT: "strengthening of interdisciplinary relations in solving issues related to various subject areas;

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identification and use of activation of cognitive activity; participating in project activities and realizing their educational trajectory" [4].

Using various computer technologies, due to their multimedia, flexibility, openness and individualization, the effectiveness of the educational process increases, the nature of the activities of students and teachers changes [1].

"Pedagogical technologies should not be reduced to the use of new information technologies based only on computer technologies and other technical means of increasing the effectiveness of the pedagogical process," says B.S. Gershunsky.

A.A. The ideas of Andreev [3] are also of interest regarding the selection of appropriate educational technologies: 40% of the educational time is allocated to face-to-face work, 20% to self-education, and 40% to distance learning.

It is important that the technologies used correspond to the modern level of scientific and technical development, educational directions, as well as the potential of students.

As part of our research, we reveal the influence of information technologies on the formation of professional competencies in students.

In the information environment, it will be possible to use modular teaching technology, software (step-by-step) teaching technology, web technologies, etc. The choice of technologies helps to improve the quality of e-learning.

The advantage of modular technology in teaching students is structuring the studied material and dividing it into certain blocks - topics. As a result, it will be possible to make interdisciplinary connections, make timely corrections according to the focus, choose the sequence of mastering the program, and effectively carry out independent work. The use of computer technologies in combination with modular technologies allows for timely, demonstrative, effective and high-quality implementation of the teaching process of mathematical sciences [2].

The use of technical tools in combination with software teaching technology allows to learn the material "step by step" at the pace necessary for each student.

A special feature of technical tools is that they significantly increase student learning.

This shows that adapting the educational material to the individual characteristics of students allows creating an environment of psychological and physical comfort. "The intensity of the educational process increases, taking into account the modal characteristics of students and teachers."

From a psychological point of view, the process of perception is aimed at receiving and changing information. Teaching in the information environment allows us to take into account the above features, because here we have the opportunity to present educational information in the necessary format, which not only facilitates the process, but also increases the perception of information.

By studying the work of P.I.Obraztsov [6], it can be concluded that modern information technologies have a significant impact on the process of formation, assimilation, and analysis of concepts and events in the use of technical means of teaching.

Any thought process is somehow related to the direction of perception of this or that object. To activate mental activity, it is very important to understand and solve problems. In this regard, information technology has a significant impact on concentration.

According to psychological studies, the concentration of attention decreases significantly after half an hour when conducting lectures in the traditional form. This is due to the low level of dialogic communication, lack of timely visibility and failure to take into account the individual abilities of each student.

E-learning allows to facilitate the learning process due to the opportunity to implement the principle of feedback. The information environment allows you to repeat the necessary information several times and supplement the educational material with technical methods for better assimilation and memorization of new material.

For example, the methods used in the teaching of mathematics are adapted to the formation of professional competencies in students using information technologies. These include the originality of the presentation of formulas, the structure of electronic elements, the choice, etc.

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Integrating mathematics and professional concepts allows for practice-oriented tasks to be included in the learning process. This will be a special motivation for educational activities.

In addition, the formation of competencies in students based on the materials of mathematical sciences depends on the following pedagogical potentials: in introducing elements of competition, thereby creating success situations; in the independent choice of the educational trajectory and the possibility of its further correction; in combining professional and mathematical sciences based on general concepts, interdisciplinary relations; to the possibility of using modern forms.

This can be done by highlighting the importance of a certain formula or element in solving a practice-oriented problem, highlighting in a certain font, changing color solutions, and so on. And structuring the material according to certain schemes allows not only to present the material in a compact way, without taking into account the problems associated with many symbolic images.

Unconsciously memorizing material containing a large number of formulas leads to rapid fatigue of students and a decrease in learning motivation in general.

It is also worth noting that when considering the educational material in the context of real life situations, students take it more effectively.

And e-learning changes the role of the teacher, raises it to the next level.

Implementation of pedagogical tasks is not in information transfer, but in creation of conditions for organization of independent educational activities, advice, assistance, direction of their personal potential in the field of the subject; in pedagogical support in the design of an individual educational trajectory and support while moving along it; psychological difficulties and reveal the individuality of each. As a result, the learning process becomes flexible and manageable.

The information environment, at the same time, is a mechanism that ensures active interaction between the teacher and the student in the course of educational activities, which creates conditions for achieving the specified educational goals. Drawing up an appropriate management plan, implementing the program, and implementing control actions are the main tasks of managing the educational process with this approach.

The information environment includes the use of various technical tools and Internet resources in the educational process.

Modern interactive forms of interaction in the educational process, for example, independent study, learning by discovery, self-management.

Due to the characteristics of information technologies such as openness, multi-channel, virtuality, the forms of independent activity of students discussed above can be demonstrated in electronic education.

As we mentioned above, Internet communication is actively developing among young people in the modern world. The impetus for this is the emergence of a large number of different social networks and instant messaging programs.

In general, it is necessary to study the issues of formation of professional competences of students of higher technical education with the help of information technologies, and it should be noted that they are multidimensional, variable and multicomponent.

Abilities	**Planned learning outcomes**
willing to seek, create, disseminate, implement innovations and	**Knowledge:** methods of using innovative technologies for the development of creativity in the training of future specialists. **Be able to:** create websites and other information technologies, using the example of mathematical sciences, to train advanced specialists. **Self:** to invite students to participate in clusters, web quests, etc., to know

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	computer technologies to form their creativity.
readiness to use technologies for the formation of creative abilities in the training of workers, servants and specialists	**Knowledge:** specific features of developing creative abilities with independent work methods. **To be able to:** apply technologies of formation of creative abilities in the training of mature specialists; **Self:** ways to use the cluster site, work independently online.
preparation for designing, use of a set of didactic tools in training workers, servants and senior specialists	**Knowledge:** basics of designing didactic tools; **Be able to:** design and use a collection of information technology didactic tools (cluster platform, web quest) in teaching; **Self:** computer, pedagogical technologies in the independent development of didactic tools.

Table 1.1 - Map of formation of professional competencies in students

Formation of professional competences in students is a methodological and technologically ensured process. It is characterized by successive stages of adaptation and intensification. Its structure is built according to motivational, cognitive, personality-activity and reflexive components.

The existing problems in creating pedagogical conditions for the formation of professional competences in students indicate the need to develop modern resources, technologies, methods and approaches aimed at modernizing the educational process and its greater effectiveness. In this context, efficiency is understood as the ability to achieve set educational goals.

Having studied the role of information technologies in the formation of professional competencies in students, it can be concluded that they have a significant impact on all components of the educational process.

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