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Effective Use Of E-Learning Resources In The Formation Of Professional Competence Of Future Engineers

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Abstract: This article discusses the organization of training using electronic learning resources in the educational process, the development of future engineers The need to develop the professional competence of teachers was identified in order to analyze the theory and practice of using electronic educational resources, identify psychological and didactic approaches to using electronic educational resources in their lessons.

Keywords: Electronic educational resources, computer multimedia, computer literacy, professional competence, psychological and didactic approaches, information educational environment, multimedia elements.

Introduction: Today, all educational institutions in the system of continuing education, including higher education teachers, are faced with new problems, namely, the task of improving the quality and efficiency of students ' mastering the subject being taught. This directly applies to the subject of informatics and information technologies. The use of electronic educational resources in explaining the topics of informatics and information technologies and organizing lessons in a visual manner is of great importance, that is, organizing teaching with informatics and information technologies through various animations and software tools in a multimedia environment.

In the process of teaching based on electronic learning resources, students will have the opportunity to fully teach a specific subject on a computer, edit the text of topics, improve the style of presenting the topic based on the analysis of the results of the control tests

submitted by students, and see, hear, and reflect on animation elements created based on electronic learning resources during the lesson.

Research on the use and creation of electronic educational resources in education has been studied in various directions in the scientific research of foreign scientists A.V.Osin, D.L.Krechman, A.I.Pushkov, A.V.Kaysin, our country's scientists Abdukodirov A.A, Taylokov N.I, Begimkulov U.Sh. and many other researchers.

Analysis of literature on the topic. Scientists working in the field of information technology attach great importance to the concept of "multimedia". Some scientists SVSimonovich, Bent B.Andersen, Kati Van der Brink imagine the concept of multimedia as a combination of multiple types of information. They combine graphic, textual, sound and image information. Another group of scientists Shafrin Yu, Zakharova I, Popov B call multimedia a special technology. With the help of such technology, it is convenient to use text, graphics, images and animation in a dialog mode.

to effectively use electronic educational resources, improve the quality of providing knowledge to students, improve its content, organize education at the level of modern requirements, and increase the efficiency of education in educational institutions, it is planned to introduce electronic educational resources into the educational process, use interactive methods and tools in them. Therefore, today, subject teachers working in educational institutions face the following important tasks: increasing the role and importance of science in the formation and development of students' independent knowledge, learning skills, organizing and conducting classes on the basis of electronic educational resources, using electronic educational resources aimed at increasing student activity and developing their mastery levels, and effectively using electronic educational resources in the educational process.

As can be seen from the above tasks, it is necessary to train students of educational institutions to use technologies aimed at independent learning and to constantly increase their activity. The organization of the educational process using electronic learning resources in the learning process has a positive effect on educational efficiency [1].

Material means of education are otherwise called electronic educational resources. Electronic educational resources are often classified according to sensory perception (depending on which sensory organs and methods of presenting information they affect the educational process). On this basis, electronic educational resources can be divided into visual, auditory, audiovisual, simulators and universal.

METHODOLOGY

Increasing the effectiveness of lessons using electronic educational resources in the educational process is one of the current issues. In developed foreign countries, this method of teaching is being implemented in all areas of education. Current practice shows that teaching students using electronic educational resources is twice as effective. Using this tool, it is possible to save up to 30% of time compared to traditional teaching methods, and the knowledge gained is retained in students' memory for a long time. It is known that if a quarter of the information heard is retained in memory, then if we implement the information provided to students through electronic educational resources, the ability to retain information in memory and visualize it increases by 25-30%. Also, if these educational materials are provided to students in the form of audio, video, graphics, it is observed that the retention of information in memory increases by 75%.

Students with knowledge using electronic learning resources has the following advantages: the possibility of deeper and more complete assimilation of the information provided during the educational process, the possibility of visualizing information, the possibility of saving time due to the reduction of the time spent acquiring knowledge during the lesson, the possibility of retaining the acquired knowledge in students' memory for a long time and applying it in practice when necessary.

However, there are some problems in applying these electronic educational resources to the educational process, which include: developing educational materials and other necessary instructions necessary for education in the form of electronic educational resources in the form of manuals, and using multimedia elements for the developed electronic educational resources.

A lot of work is currently being done in our Republic to create educational materials. Leading specialists are involved in this, and educational materials are being created in educational areas. With the help of electronic educational resources, educational and didactic materials can be developed at an almost professional level [2].

The main goal of using electronic educational resources in the educational process is to develop the professional competence of teachers in creating electronic resources using didactic tools.

RESULTS

The following information and communication

capabilities are considered important, which determine the readiness of a modern teacher to work in the conditions of informatization of society: the ability to perform professional tasks using modern tools and methods of informatics and electronic educational resources, the ability to organize special knowledge that realistically reflects the level of preparation for the use of electronic educational resources in professional activities, the ability to correctly assess the situation and make effective decisions using electronic educational resources in pedagogical activities.

It is clear from this that e-learning resources have the potential to significantly improve the quality and efficiency of education, and for this, it is necessary to use high-quality pedagogical programs and excellent methodology.

Nowadays, many electronic educational materials have been created for use in the educational process, such as electronic textbooks, electronic study guides, electronic development, educational software tools, virtual stands, etc. They provide certain efficiency in education due to the presence of features such as manageability, interactive methods, artificial intelligence elements, and emotional flexibility [3].

Modern electronic educational resources have various opportunities in the field of education and upbringing. On the other hand, this education is not without its problems.

Information first Technologies and e-learning resources are developing so rapidly that even pedagogical research and methodological guidelines are becoming outdated.

On the other hand, the technical means in the professional activity of a teacher are so diverse that new methods of their use appear. And teachers face new issues and problems in the correct application of electronic educational resources in the educational process. The application of electronic educational resources in subjects dramatically increases the level and quality of knowledge, while to a certain extent it is necessary to pay attention to theoretical and methodological aspects. These are the didactic principles of teaching.

electronic learning resources in the learning process occurs:

For the relationship between teacher and student to be a pedagogical process, both parties must define a clear task. Depending on the content, nature and difficulty of the education being taught, electronic educational resources determine their task. Preparing for the reception of new material, assimilating new information and demonstrating it, explaining, consolidation, generalization, and checking acquired knowledge, skills, and competencies [4].

that education reaches each student individually, increasing student participation in the learning process. Modern electronic learning resources allow the use of various methods and techniques, taking into account the individual capabilities of the student.

Significant work is being carried out in educational institutions of our republic to improve the quality and efficiency of education in order to train intellectually mature, complete, and competitive personnel. Modern electronic educational resources are being introduced into the educational process in all educational institutions.

The dynamics of the creation of electronic educational resources consists of five stages: the emergence of programs intended for partial use in the lesson process, intensive use of programs, systematization, evaluation of the collected data, conducting experiments, critical analysis of the future and assessment of opportunities, generalization of experiences in the use of general educational programmed pedagogical products and the creation of electronic educational resources, methodological substantiation of the use of programs, ensuring the literacy of teachers in the use of electronic educational resources, transition of higher education courses to new teaching technologies, widespread use of electronic educational resources in the study of some topics, extension of the time for teachers to work with electronic educational resources to prepare for lessons and manage the educational process, transition to the use of new information technologies as an alternative teaching method, transition to the active use of programmed pedagogical products for some topics in the context of traditional teaching methods, pedagogical experience in the use of electronic educational resources Reconsidering the content and methods of disciplines that have led to positive results and organizing education on the basis of completely new electronic educational resources [5].

students, the availability of a large amount of information on a subject, its ease of use and simplicity increase their interest in this subject. In particular, the use of electronic educational resources in teaching a subject provides visuality, and the presence of animated movements of images, audio recordings, and relaxation situations attract the attention of students.

In addition to creating opportunities for students and arousing their interest, it is also an important program for teachers. Because it contains the state educational standard for this subject, calendar plans for teaching subject hours, control work, test questions on topics

and chapters, automatically executed programs, and many other features necessary for the teacher [6].

CONCLUSIONS

The successful delivery of lessons depends on the teacher's ability to link thematic demonstrations and lectures to electronic learning resources. Student 's thematic acquisition is further improved with the help of electronic learning resources. Making lessons interesting and presenting them to students with the help of electronic learning resources makes the teacher's work much easier.

We will illustrate the didactic features of electronic learning resources.

Showing pre-prepared lessons at the right time, allowing the teacher to show tables, graphs, and diagrams without spending too much time drawing them, makes the teacher's work easier during the lesson and helps to provide a meaningful lesson.

It creates an opportunity to overcome temporary and future difficulties.

When using Internet resources, students can be shown opportunities that are limited in time and space.

The possibilities of penetrating into a more real and broader understanding of events and processes.

The subject becomes more understandable if the subject is demonstrated to students without the use of electronic learning resources, and the changes in the formation of graphs, drawings, and diagrams are displayed on the computer screen using electronic learning resources.

electronic learning resources in the classroom?

students and establishing teaching and control through electronic educational resources. Control through testing is carried out very quickly and objectively using a computer, this method is of great importance.

The implementation of electronic learning resources allows students to develop critical competencies. Electronic learning resources help solve the problems posed by educational programs.

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