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THE USE OF ELECTRONIC EDUCATIONAL RESOURCES BY TEACHERS IN THE CONTEXT OF DIGITALIZATION

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Such technologies are based on the idea of expanding and deepening traditional educational text through more advanced learning materials and replacing it by using courses and animated fragments. In this process, interconnected nodes are created between selected text fragments. According to specialists, hypertext imitates the ability of human intelligence to retain large amounts of information and to search within it through associative communication and thinking processes. In other words, hypertext is a complexly organized system of educational materials that incorporates a large amount of static and dynamic information and has a generalized network structure. Text, graphics, diagrams, video fragments, executable programs, and animations serve as information fragments. Texts, in turn, may consist of smaller texts nested within one another many times, like a “matryoshka” (a doll within a doll).

Reforming the education system is aimed at developing a new generation of future teachers characterized by a high level of professional culture, creative and social activity, and the ability to participate independently in socio-political life. Modern pedagogical technologies are of great importance in accomplishing these tasks. The study and practical application of pedagogical and information technologies stem from the need to improve the quality of education and upbringing. The essence of pedagogical technology lies in intensifying the educational process,



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accelerating students' learning and achievement of learning outcomes, and organizing a pedagogical process aimed at guaranteeing positive results [1].

At present, scientific thinking and scientific and technological development are progressing rapidly and intensively. Therefore, teachers must keep pace with contemporary knowledge and developments.

The use of computers in the teaching process creates new and specific opportunities for teachers and students in connection with interactive learning materials. Interactive educational materials developed by teachers should employ modern programming languages in ways that make them engaging for students. The operational integration of computers with other teaching tools, such as projectors and interactive whiteboards, increases the amount of information that can be presented through visual aids and enables teachers to use lesson time more efficiently [2,3].

Today, the capabilities of modern programming environments and languages such as Delphi, MATLAB, Mathcad, Maple, Mathematica, and C contribute to the high-quality organization of lessons. As a result, lesson effectiveness increases and students' interest and attitudes change.

Improving the quality of teaching increasingly depends on the effective use of new teaching methods. Under new instructional approaches, students must remain continuously engaged in inquiry and activity; that is, they should obtain information, process it, and apply the knowledge they acquire to solving specific problems. The application of information technologies in lectures, practical classes, laboratory sessions, and independent learning quickly demonstrates its effectiveness. For example, the use of virtual stands in laboratory classes provides a basis for organizing instruction more effectively.

The unprecedented development of computers and software products has opened broad opportunities for the use of information technology in education.



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Educational materials can be prepared in the form of multimedia systems and made available to a wide audience through computer networks and communication tools. The widespread introduction of computer technologies into the education system requires reconsideration of learning materials for all forms of instruction. Multimedia electronic learning materials should therefore be developed in accordance with each form of teaching [4].

Information technology tools are usually used less frequently in practical and laboratory classes. However, research in the field of instructional technologies shows that these forms of instruction contain considerable potential for improving teaching quality. In traditional teaching methods, it is not always possible to engage the entire group actively and adequately monitor students' mastery. When learning material is available electronically, students can view, study, modify, save, and examine text, graphics, audio, and animation more deeply on a computer screen.

When electronic learning materials are collected within an existing local network, opportunities arise for collaborative completion of assignments and information exchange. Computers and software in a computer classroom enable students to approach the topic individually, formulate their own opinions, and increase their activity [5].

Through a server computer, the teacher can monitor and record each student's learning progress and the manner in which assigned tasks are completed.

Joint use of a unified information hyper-environment promotes creative cooperation between teachers and students in acquiring practical knowledge.

Organizing instruction in this manner requires teachers to possess knowledge and skills related to software for creating electronic resources and also requires classrooms to be equipped with technical tools that provide an appropriate user interface.



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Modern teaching technologies constitute a complex, integrated system consisting of an ordered set of pedagogical activity elements directed toward students' acquisition of knowledge, skills, and competencies defined by educational objectives, as well as the development of specific moral and ethical qualities. Full use of electronic educational resources in the learning process makes it possible to achieve the following:

- 1) learners perceive, understand, and accumulate information in memory, although they may not yet reproduce it consciously and without errors;
- 2) in direct cooperation with the teacher, they analyze, compare, generalize, and perform practical actions according to a model;
- 3) in the process of solving problems, they conduct independent inquiry and independently determine the ways and means of achieving the expected result.

The higher the quality of electronic educational resources developed using modern programming tools, the more effective the educational process becomes. Knowledge of interactive teaching methods provides a special form of organizing communicative activity in which learners are involved in the cognitive process and have an opportunity to explain what they know and think.

In lessons where electronic educational resources are used, pedagogical cooperation between the learner and the teacher encourages students to remain actively involved throughout the lesson, think independently, engage in creative inquiry, and maintain a sustained interest in the subject.

Information and communication technologies, which continue to develop from year to year in the education system, contribute to raising the educational process to a higher level in terms of both quality and content. Therefore, it is appropriate to use modern technical tools to organize the educational process meaningfully. The use of computers, multimedia, the Internet, distance learning, unified



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information environments, and modern information and communication technologies is producing clear benefits.

The requirements for electronic educational resources designed for today's young people are increasingly complex. Educational resources should be comprehensive, modern, attractive to young people, and capable of enriching them with new knowledge. Therefore, the use of new programming languages is advisable.

The expected outcomes of introducing new pedagogical technologies into the education system are reflected in their advantages and in the principles of increasing lesson effectiveness. Electronic educational resources created using modern programming languages and placed online can enrich students' knowledge, strengthen retention, make lessons more engaging, develop thinking, improve learning effectiveness, broaden their worldview, encourage independent work, and teach them to express and defend their own opinions.

Electronic educational resources developed for a particular subject are widely used to improve students' knowledge, assess learners, and manage the educational process.

The analysis shows that existing studies are mainly devoted to improving the use of information technologies in educational institutions and developing students' innovative potential, while insufficient attention has been paid to the development and implementation of didactic support for an educational process oriented toward independent creative activity. This necessitates a comprehensive study of the formation of students' ability to use modern technologies in the process of developing independent thinking skills in higher education institutions.

In conclusion, educational materials prepared in electronic form can ensure high quality and effectiveness across various forms of instruction. When there is a need to work with databases, tools such as Microsoft Excel may be used. Hardware



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devices such as scanners, video capture and editing boards, and sound cards can also be used to create illustrative materials for electronic textbooks or teaching aids. When electronic textbooks are created using word processors and specialized software, users may encounter difficulties related to limited access or usability. In particular, the user may need to have the software in which the textbook was created. Problems may also arise when placing the textbook on the Internet. Such problems do not occur when HTML hypertext documents are used, because HTML is the hypertext language of the Internet system and software for reading HTML documents is included in the Microsoft Windows operating system. It should be noted that, in this case, the capabilities and sophistication of an electronic textbook are limited primarily by the developer's level of competence.

Among electronic educational publications, network resources hosted on the Internet are becoming increasingly widespread. The number of Internet resources devoted to historical topics is also growing. Databases of historical resources, specialized catalogs, and search systems have gradually emerged. Working with online scientific and educational resources has specific characteristics and requires skills in using browsers and familiarity with methods of searching for, processing, and storing information on the Internet. The first problem faced by a historian seeking to work on the Internet is information retrieval. The next problem is determining whether the resources found are suitable for educational purposes. Many historical resources are not verified for compliance with state educational standards. During the study of a particular course, an educational resource obtained from the Internet may not correspond to the curriculum of the educational institution. The highly diverse nature of information available on the Internet also creates the problem of selecting the software and hardware needed to process it. There are many formats for presenting textual, graphic, audio, and



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video information. To determine what should be searched for, a historian refers to the curriculum used in educational activities. It is also appropriate to determine the nature of the required information in terms of its structure, presentation type, purpose, and form. To locate necessary information on the Internet, one must identify the resources in which it is hosted. Such information can be found in search-engine databases and search catalogs. Major Russian-language search systems include Rambler, Yandex, Aport, and Google. Searches in these systems are conducted on the basis of text queries. In practice, it is advisable to use several search engines because their databases differ. Specialized historical catalogs may exist within search, information, or research resources or as independent resources. Unlike search engines, catalogs often meet users' expectations more effectively because searches are carried out within materials that have been preselected by topic.

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