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PROBLEMS OF USING ELECTRONIC EDUCATIONAL RESOURCES IN TEACHING INFORMATICS AND IT

Ilyasova Z.K.
Doctor of Philosophy in Pedagogical Sciences (PhD), Associate Professor
G.A.Shaniyazova
Master's student of the specialty "Information Technologies in Education"

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Introduction. In recent years, the rapid development of digital technologies has had a significant impact on all levels of the education system, in particular, on the process of teaching Computer Science and Information Technologies. Since these disciplines are directly related to technological updates in terms of content, the electronic educational resources used in their teaching also require constant improvement. Electronic textbooks, digital educational platforms, virtual laboratories, and interactive software tools make the educational process more flexible and effective. However, practical experience shows that the availability of e-learning resources does not automatically ensure their effective application.

Problems arising in the process of using electronic educational resources in teaching computer science and IT are often associated with methodological, technical, and organizational factors, which directly affect the quality of the educational process. In some cases, the use of digital resources takes on a formal character, and their pedagogical capabilities are not fully utilized. In this case, the main problem is not the abundance of resources, but the insufficient formation of mechanisms for their didactically correct selection and integration. The main goal of this article is to scientifically analyze the problems associated with the use of electronic educational resources in teaching Computer Science and IT and to substantiate ways to eliminate them.

Methods. Theoretical and empirical analysis methods were used in the research process. In the process of studying scientific sources, domestic and foreign studies devoted to the effectiveness of using the methodology of teaching computer science, digital educational technologies, and electronic educational resources were analyzed. The content of regulatory legal acts and conceptual programs in the field of education of the Republic of Uzbekistan was also studied.

At the empirical stage, the state of use of electronic educational resources in the process of teaching computer science and IT subjects in general education schools and higher educational institutions was observed, and existing practical experience was summarized. Within the framework of the study, electronic educational resources were divided into traditional and digital types, and their place in the educational process was comparatively analyzed. The obtained data were systematized based on methodological, technical, and organizational criteria, which made it possible to comprehensively identify existing problems.

Results. The research results showed that there are a number of persistent problems in the process of using electronic educational resources in teaching Computer Science and IT. First of all, a lack of balance was observed in the issue of the compatibility of e-learning resources with

educational goals. Although many digital resources are technologically advanced, their content does not always correspond to the age and level of preparedness of students. This reduces the didactic effectiveness of the resources.

Also, in the process of using digital resources, a lack of a methodological approach was revealed, and it became known that resources are often used by teachers episodically and fragmentarily. The limited technical infrastructure, in particular, the lack of modern computer equipment and a stable Internet network, also manifested itself as an important problem. In addition, differences in the level of digital competence of teachers have a significant impact on the effectiveness of using e-learning resources.

This article analyzes the state of use of electronic educational resources in teaching Informatics and Information Technologies in secondary school No. 13 of the Karauzyak district of the Republic of Karakalpakstan. The widespread introduction of information and communication technologies into the modern educational process is an important factor in the effective organization of the educational process, the development of students' independent thinking and practical skills. From this point of view, determining the level of use of electronic educational resources and their pedagogical effectiveness is of current importance.

The use of traditional and digital electronic educational resources in teaching computer science in general education schools directly affects the quality and effectiveness of the educational process. In particular, printed textbooks, electronic teaching aids, multimedia presentations, online educational platforms, and virtual laboratories serve to form practical competencies in students along with theoretical knowledge. However, there are some organizational, technical, and methodological problems in the use of these resources, which hinder ensuring their full effectiveness.

Analysis conducted at secondary school No. 13 of the Karauzyak district shows that printed textbooks and multimedia presentations occupy a leading place as the most frequently used electronic educational resources in teaching computer science. The level of use of electronic textbooks and online educational platforms is relatively low, mainly due to the lack of technical equipment and the quality of the Internet. Although the possibilities of using virtual laboratories are limited, their high pedagogical effectiveness is clearly manifested in the process of practical training.

Information summarizing the state of use of electronic educational resources in a general education school is presented in the table below.

Table 1

The state of use of electronic educational resources in teaching computer science at secondary school No. 13 of the Karauzyak district

Type of educational resource	**Degree of application**	**Main goal**	**Existing issues**	**Pedagogical effectiveness**
Printed textbooks	High	Formation of theoretical knowledge	Rapid content depreciation	Average
Electronic textbooks	Average	Ensuring independent learning	Lack of technical means	Medium-high
Media presentations	High	Visual explanation of topics	Lack of methodological approach	High
Online	Low-	Organization of	Low Internet	High

Type of educational resource	Degree of application	Main goal	Existing issues	Pedagogical effectiveness
educational platforms	medium	practical classes	Quality	
Virtual laboratories	Low	Development of practical skills	Resource limitation	High

The data in Table 1 show that, although traditional e-learning resources prevail in the school, the use of modern digital educational tools is still insufficiently established. At the same time, despite the high pedagogical effectiveness of electronic and virtual resources, the level of their application remains low.

As can be seen from the table, printed textbooks and multimedia presentations have the highest level of application, while electronic textbooks and online platforms represent an average indicator. Virtual laboratories, although relatively rarely used, are highly valued for their importance in the educational process. This situation indicates the need for wider implementation of digital electronic educational resources in teaching computer science, strengthening the material and technical base, and improving the methodological training of teachers.

Discussion. The obtained results show that the issue of the effective use of electronic educational resources in teaching Computer Science and IT requires a systematic approach. For example, it should be noted that digital resources, allowing for the activation and individualization of the educational process, can also lead to the formation of superficial knowledge when used incorrectly. Therefore, it is important to rely on the principles of pedagogical design when using resources.

In the context of the education system of Uzbekistan, several priority areas for improving the use of electronic educational resources in teaching computer science can be distinguished. In particular, it is necessary to create national electronic educational resources and provide them through a single platform, introduce a system of continuous professional development aimed at improving the digital and methodological competence of teachers, and improve the mechanisms for monitoring the effectiveness of electronic educational resources. Apparently, such a comprehensive approach will significantly improve the quality of teaching computer science and IT.

Conclusion. In conclusion, the issue of using electronic educational resources in teaching the subject "Computer Science and Information Technologies" is a complex and multifactorial process, determined not only by technical capabilities, but also by methodological and organizational conditions. The effective use of electronic educational resources is directly related to the teacher's professional competence, pedagogical approach, and the quality of the educational environment. Therefore, the reforms carried out in this area should be comprehensive and systemic.

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