

The Role of Targeted Use of Computer Networks in Modern Times

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Abstract: The emergence of multimedia and Internet technologies has opened up broad opportunities for the effective use of information technologies in the educational process and communication within general education schools. The role and influence of information technologies in developing a well-rounded individual, enabling them to choose a profession independently, self-form in their career, and enhance their professional skills are increasingly significant. This article analyzes the current role of students and teachers in the targeted use of computer networks.

Keywords: Computer, programming, technical tools, education, information technology, distance learning.

Introduction: By utilizing computers and information technologies, new opportunities arise in the field of education, student activities, and the development of students' creative thinking. Information technologies enable the integration of education with real life. This creates an opportunity to closely link teaching with future professional activities. When applying information technologies, it is essential to realize the full potential of the student's personality: through computer tools, efforts must be made to develop the child's cognitive, ethical, creative, communicative, and aesthetic capabilities and talents[1]. To transform computers and information technologies into a comprehensive tool for developing students, teachers themselves must be knowledgeable (competent) in the field of information technologies.

In the practice of world pedagogy, several scholars, including M. V. Bulanova and Toporkova, evaluate a teacher's competency in information technologies based on the following qualities:

1. The ability to assess and integrate practical experience in a modern information environment;
2. A drive to develop personal creative qualities;
3. A high level of general communicative (interpersonal communication) culture;
4. The presence of theoretical concepts and organizational experience related to cooperative actions using information tools;
5. The need for self-reflection (analyzing one's psychological state);
6. Mastery of the methods of receiving, selecting, storing, retrieving, presenting information, as well as modifying, transmitting, and integrating information.

Pedagogue V. K. Selevko considers computer literacy a crucial part of computer technology content and includes the following components:

- Knowledge of the basic concepts of computer science and computing technology;
- Understanding the general structure and functional capabilities of computer technology;
- Familiarity with modern operating systems;
- Knowledge of shells and operational tools of modern software that perform general tasks (such as Norton Commander, Windows, etc.) and understanding their functions;
- Proficiency in at least one text editor;
- Basic concepts of programming algorithms, languages, and packages;
- Initial experience using practical software that performs utilitarian (practically beneficial) tasks.

The development of the Internet in the Republic of Uzbekistan is directly related to the country's progress. It reflects all the stages characteristic of modern states and the lifestyle of their populations[2]. In the educational process, the development of the use of information technologies takes on special significance through distance learning. Distance education opens new avenues for people who wish to increase their level of knowledge without being separated from production, including those unable to attend school, people with disabilities, and the elderly. In distance learning, no one can be forced; the learner has the opportunity to communicate, gather additional information, and exchange ideas according to their capabilities.

Distance education meets all the requirements of the present day, especially considering that it significantly affects the funding of all daytime education systems when travel expenses are not taken into account. It is well-known that for many years, external education has primarily been conducted through television, radio, or print media. However, the implementation of these has faced many difficulties due to numerous factors.

Various methods exist for organizing distance learning based on new information technologies: interactive television, telecommunications, CD-ROM technology, educational radio and television, video tapes, and so on.

In recent years, four types of distance learning have become widespread:

1. Interactive television (two-way TV);
2. Computer telecommunication networks based on information exchange (regional and global, Internet);
3. Multimedia, interactive mode, computer telecommunication networks capable of conducting video conferences;
4. Convergence of the first and second types.

Distance education allows you to study at a convenient time via the Internet. The essential features of distance education include the teacher, the student, and communication. The methodological materials for distance education include:

- Textbooks
- Audio and video textbooks
- Online classes (Web pages)
- Electronic libraries
- Tests
- Multimedia electronic textbooks

Thus, distance learning has introduced opportunities for virtual libraries, video conferences through satellite, classes, communication, and information retrieval via the Internet. This has provided a special learning environment for students.

The speed and quality of student comprehension of the subjects have significantly improved. The level of qualifications of the population naturally plays an important role in the development of the country's economy and, at the same time, in the formation of a democratic society and the social-spiritual development of the nation. A student's level of knowledge and understanding of a subject is expressed in their independent assignments.

It is undeniable that the computer has become one of the great inventions of the 20th century. According to the demands of the era, computer technology has greatly developed today. The collection, management, processing, and transmission of data are especially important today [3]. The demand for developed and developing countries to utilize the latest and most compact technologies is increasing daily. The entire world has recognized the 21st century as the information age [4]. In the information age, there is a need to work with large volumes of databases and information. The rapid changes taking place in society and the necessary tools for addressing daily needs have a significant impact on the fields of computer science and information technology.

The development of information technologies also influences software and hardware [5]. These influences are so powerful that changes are occurring not just over the years but within months [6]. The emergence of new variants of information technologies and their technical and software components requires a fundamental change in the methods of service in this field [7]. Additionally, knowledge about information technology enhances students' interest in it [8]. The information that forms its basis is also one of society's valuable resources, much like traditional material resources such as oil, gas, and minerals. Thus, the process of processing information can be regarded as a technology when compared to the processes of processing material resources. The following concept can be aptly introduced:

While the goal of material production is to produce goods that meet the needs of humans or systems, the goal of information technology is to create information for human analysis and make decisions to carry out certain actions based on that information.

Information technology is a process of collecting, processing, and transmitting data (initial information) using tools and methods to obtain new qualitative information about the state of an object, process, or phenomenon (information product). Information technology is closely linked with information systems, where information technology is the primary environment. The process of information technology involves actions, operations, and phases based on organized rules concerning the data stored on a computer [9]. The main goal of information technologies is to provide users with the necessary information by processing primary information as a result of targeted actions.

An information system consists of computers, computer networks, software products, databases, people, various technical and software communication tools, and other devices. The primary goal of an information system is to store and transmit information [10]. An information system is a human-computer system for processing information.

In summary, every sector today has its broad area of application, and we, as educators, are required to shape them. Moreover, the field of computer science represents one of the latest and most rapidly developing areas in science. The broader application of this field is inextricably linked to improving our future, thus necessitating a deeper exploration of it today. Obviously, the extensive use of this field in all areas, including education, has been facilitating our lives. Therefore, promoting it among society, especially among the youth, is our collective duty.

Conclusion. The primary goal of course work is to reinforce and expand theoretical and practical knowledge in education and to apply this knowledge to address specific scientific, technical, production, economic, social, and cultural tasks.

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