MODERN INFORMATION AND COMMUNICATION TECHNOLOGIES AND THEIR SIGNIFICANCE IN THE DEVELOPMENT OF READING

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Abstract: *Modern ICT plays a vital role in education by enhancing access to resources, improving teaching efficiency, and increasing student motivation. This paper highlights the role of ICT in reading development, with a focus on digitizing scientific literature and automating library services. It also reviews local and global research efforts in educational digitalization.*

Keywords: *ICT, Education, Reading, Digital Libraries, OCR, Motivation, Uzbekistan, Digitalization*

The rapid development of information and communication technologies (ICT) has created vast opportunities to shape educational environments and implement innovative teaching methods. One of the primary functions of information systems is to manage and control the flow of events and processes. These systems are data-driven, goal-oriented, and exert a targeted influence on the controlled processes by generating programs to achieve specific outcomes. The transmission of information from generation to generation is closely aligned with the purpose of educational efforts.

Information technology (IT) encompasses a set of regulated applications using computers and telecommunications to collect, process, store, restore, display, systematize, transmit, and deliver information to end users in order to solve systemic problems. ICTs have become a crucial component of process management, involving both the sorting and processing of data as well as the targeted delivery of processed information.

Informatization is not only a scientific and technological achievement—it plays a vital role in the development of education, upbringing, art, healthcare, economics, agriculture, and industry. ICT is a key motivator for learning. The accumulation and display of information through various multimedia formats, including animations and age-appropriate content, increases students' interest and motivation toward learning.

The core objective in this regard is to cultivate intrinsic motivation and guide learners in applying it effectively. Informatization involves a comprehensive set of tools and conditions that support the development of information processes, including the creation of technical, organizational, economic, cultural, and educational infrastructure that enables the technologization of education. With effective use of information, the following educational tasks can be addressed:

● Processing information about sources and ongoing processes

● Maintaining up-to-date data about learning progress and enabling process control based on that information

Modern technical achievements have already taken a firm place in the educational sphere, and ICT is no exception. Early efforts in integrating computers into education demonstrated that computing technologies can significantly improve educational

efficiency, enhance knowledge assessment and tracking, and enable teachers to provide individualized support for students facing difficulties.

Today, ICT is omnipresent. Teaching students to use modern information and pedagogical technologies—and applying these tools in academic settings—helps deepen understanding, solidify knowledge, and develop skills and competencies. The integration of interactive methods and modern pedagogical approaches into ICT education significantly enriches lesson quality and improves student performance.

In the modern world, ICT has a profound impact on various sectors, especially education and scientific research. One of the key developments is the digitalization of scientific literature, which not only ensures data preservation but also improves accessibility and enables advanced analysis. Scientific literature exists in various formats—printed books, articles, dissertations, and more—and digitizing these resources requires the effective application of technological tools.

Digitization supported by ICT is efficient and convenient. University libraries are not only centers of knowledge but also critical infrastructures that support academic and research activities. Modern technologies now allow the automation and optimization of library services. While the automation of electronic library services is a timely and relevant topic, some aspects remain under-researched and require further exploration.

Foreign researchers have significantly contributed to the digitization of scientific literature. For example, R. Smith's OCR (Optical Character Recognition) algorithms achieve high accuracy in converting printed texts into digital format. M. Sanderson and W. Croft have investigated improvements in scientific data retrieval systems, enhancing access and enabling automated data analytics. J. Allen's development of database systems has simplified the storage and use of scientific resources. These international contributions form the foundation for global digitalization efforts in academia.

Local researchers are also making valuable contributions. For instance, A. Karimov and O. Usmanov are working on digitizing ICT educational materials and integrating them into national library databases. Their efforts focus on adapting digitalization processes to local linguistic and contextual needs, including the correct recognition of Uzbek-language symbols. Similarly, N. Abdullayev's work on linking national scientific literature to international databases contributes to preserving and promoting national academic heritage globally.

This study employs several research methods to analyze and evaluate current approaches to the digitalization of scientific literature. For this one can carefully consider following steps:

● Theoretical analysis: Reviewing scholarly articles, monographs, and conference proceedings to identify prevailing principles and practices in digitalization

● Practical analysis: Assessing the effectiveness of OCR tools, databases, and cloud services used in digitization processes

● Experimental methods: Measuring the accuracy and processing speed of various technologies used to digitize different formats, including textual documents, graphs, and diagrams

● Comparative analysis: Identifying the strengths and weaknesses of foreign and domestic digitalization practices

● Interviews and surveys: Collecting insights from researchers, librarians, and IT professionals to gain a practical perspective on digitization initiatives

The automation of university library services yields numerous benefits. It enhances overall efficiency, optimizes services for students and faculty, and streamlines library operations. Automated book returns, digital catalog systems, and digitization of print materials free up staff time, allowing them to focus on user engagement, cataloging, and system maintenance.

Developing a national model for library automation: While many countries have implemented electronic libraries, local contexts require tailored models.

Integration of national information resources: Creating library management software adapted to local needs is essential.

Assessment of current library automation: In-depth studies of Uzbek university libraries are still limited. Exploring their current capabilities and needs will inform targeted improvements.

ICT is essential for modern education. It supports digital learning, personalizes teaching, and streamlines access to scientific literature. Automation of university libraries boosts efficiency and preserves knowledge. Both international and local studies show that successful ICT integration requires adapting to local needs and investing in digital infrastructure.

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