



## SYSTEM OF APPLICATION OF INFORMATION TECHNOLOGIES ASA MEANS OF IMPROVING THE QUALITY OF EDUCATION IN A UNIVERSITY

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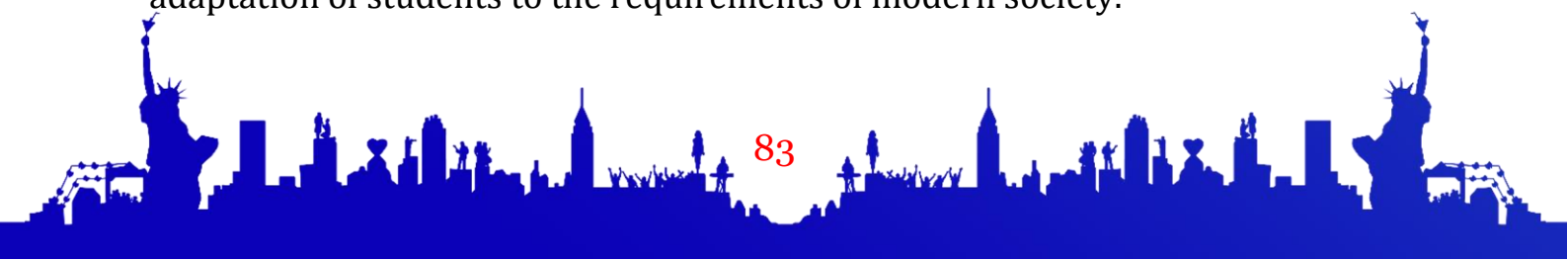
**Annotation.** The article examines the technology of improving the quality of education using automated information systems in the educational process using higher education institutions as an example. The reasons for the need to implement AIS, their advantages and disadvantages, as well as the experience of using these systems in prestigious universities and institutes are analyzed. Particular attention is paid to the analysis of the use of AIS, since They play a key role in modern education, ensuring effective management of educational processes.

**Keywords:** education, automated, information systems, educational process, efficiency, innovation, interactive, educational resources, adaptive systems, effective learning, modern technologies.

**Introduction.** Modern education faces a number of challenges related to the need to ensure accessibility, quality and effectiveness of education for all students. In the context of rapid technological development and changing labor market requirements, educational institutions are forced to constantly improve their methods and approaches to teaching. One of the most promising and effective means of achieving these goals is the use of automated information systems in the educational process.

Technology is becoming an integral part of education, providing new opportunities for personalizing learning, improving accessibility of education and increasing student motivation. Automated information systems allow for the creation of flexible and adaptive educational environments, providing students with access to a variety of educational resources and tools.

The use of automated information systems in the educational process is becoming not only a necessity, but also an opportunity to create modern, flexible and innovative educational environments that facilitate the successful adaptation of students to the requirements of modern society.





The choice of automated information systems is justified by their ability to effectively manage and process large volumes of data, ensure the availability of information for students and teachers, and improve communication and interaction in the educational process. These systems allow for the optimization of educational material management, automation of assessment and feedback processes, and improvement of learning efficiency through personalized approaches and adaptive teaching methods [1]. In addition, automated information systems help improve the monitoring and analysis of student performance, which allows for the rapid identification of problem areas and the development of individualized educational strategies.

Let's take a closer look at the advantages of using automated information systems in education:

**Improving access to education:** automated information The systems provide the opportunity to study remotely, which is especially valuable for students living in remote areas or who have limited opportunities to attend classes at educational institutions.

**Increased efficiency of the educational process:** Thanks to automated systems, teachers can easily access the necessary educational materials, quickly organize the educational process and adapt it to the individual needs of a group or individual students.

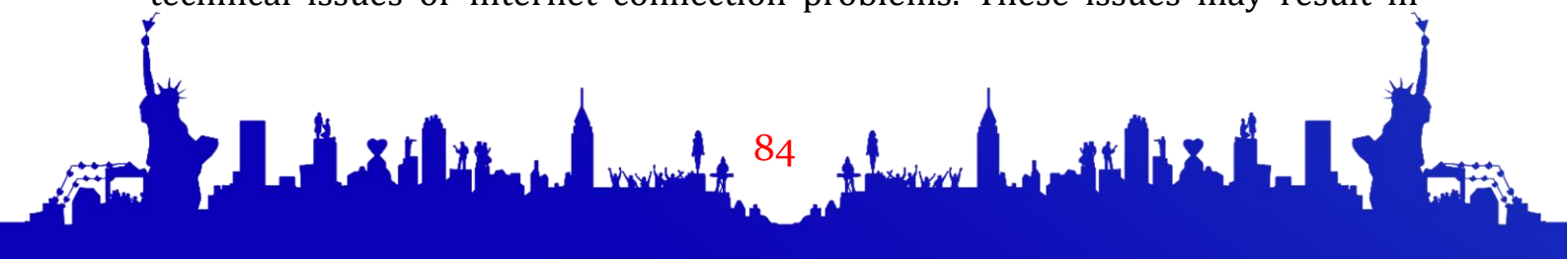
**Individualization of learning:** AIS facilitates the adaptation of educational materials and teaching methods to the individual needs and pace of assimilation of information by students. This helps to create a more comfortable and stimulating educational environment in which each student can realize his or her potential and achieve optimal results in learning.

**Improved monitoring and analysis of academic performance:** Automated education systems provide the ability to quickly and accurately track student progress by automating the processes of collecting and analyzing data on academic progress.

**Expanding educational opportunities:** With automated systems, students can access extensive educational resources, online courses and expert knowledge, which contributes to their professional and personal development.

It is worth considering that the use of automated information systems in education has its drawbacks:

**Technical issues:** Automated systems may experience problems such as technical issues or internet connection problems. These issues may result in





limited access to educational resources and hinder the learning process for both teachers and students.

**Limitations of interaction:** Remote learning, while offering many benefits such as flexibility and accessibility, can also lead to a decrease in the level of social and academic interaction between students and teachers. Not being physically present in a classroom or lecture hall can create barriers to communication and the exchange of ideas, which in turn can impact student engagement and motivation.

**Dependence on technology:** There is a growing dependence on technology in education, especially with automated systems, which is becoming increasingly evident. To operate such systems effectively, it is necessary to provide adequate technical infrastructure, which can be a significant challenge for educational institutions, especially in resource-constrained settings. In addition, the support and maintenance of the system requires skilled personnel, which may require additional investment and training efforts.

**Security Threats:** There is a risk of leakage of students' personal information or data breach when using online platforms and e-learning systems.

Let us consider in more detail the types of automated information systems and their application in the educational process at leading universities.

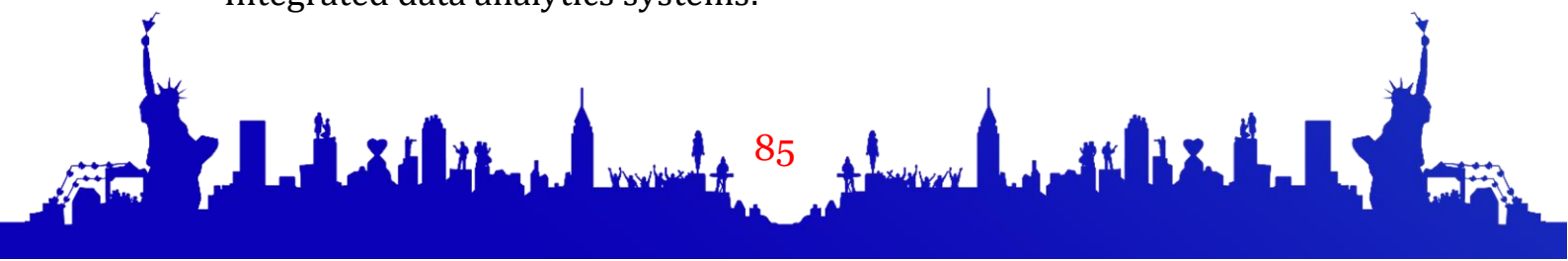
**AIS related With Learning Management Systems (LMS):**

**Stanford University:** Stanford University uses LMS-Canvas as its central platforms for course management, delivery of learning materials to students, and online testing [2]. Canvas provides a wide range of functionalities that help faculty and university administrators effectively manage the learning process and provide quality learning to students [3].

Stanford University instructors can use Canvas to create and customize course structures, upload course materials, create assignments and tests, set due dates, and interact with students through feedback. This allows them to effectively assess students' knowledge and receive results directly in the system, simplifying the grading and feedback process.

In addition, the Canvas LMS has the ability to integrate with other educational tools and applications, allowing it to expand its functionality and meet the specific needs of Stanford University. This flexibility and adaptability make Canvas an effective tool for course management and providing high-quality education at Stanford University.

**Integrated data analytics systems:**





Californian university Berkeley. At the University of California, Berkeley, Tableau is used as an integrated system to analyze student data, monitor academic performance, and forecast trends. This system provides the university with powerful tools for processing and visualizing large amounts of data, allowing it to analyze various aspects of academic performance and make informed decisions based on data [4].

One of the key functions of the Tableau system at the University of California is the analysis of student data. With its help, the university can collect, store and analyze various data about students, including academic performance, course history, extracurricular activities and other parameters.

Tableau system allows university to predict trends in education and develop development strategies based on data. Data analysis and visualization help the university determine promising development areas, identify potential challenges and opportunities, and make informed decisions about the implementation of new programs and initiatives.

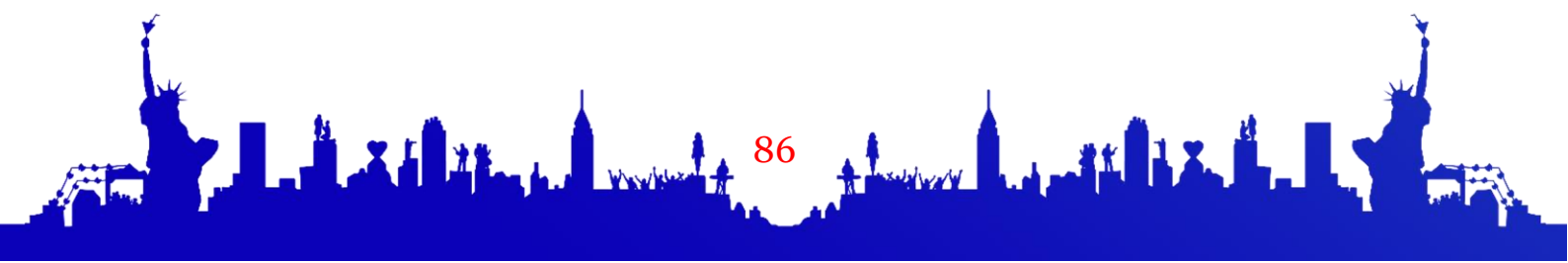
Systems electronic portfolio:

Asti Community College. Blackboard Portfolio is an electronic portfolio tool that is widely used in educational institutions, including colleges. At a college like Austin Community College (ACC), Blackboard Portfolio provides students with the ability to create digital portfolios in which they can organize and showcase their academic achievements, projects, and reflections. This tool is typically integrated into the Blackboard Learn educational platform, providing ease of use for students and faculty [5].

The benefits of Blackboard Portfolio include the ability for students to create and edit their own portfolios, upload different types of content such as text, images and videos, and customize access to their portfolios. This allows students to organize their learning materials, share their progress and develop self-reflection skills throughout the learning process.

Systems management library:

Oxford university. At Oxford University, the Aleph system is used to automate library operations, which includes book inventory, access to electronic resources and the ability to order books from other libraries. This integrated library management system provides the university with efficient and reliable management of its library resources, improving accessibility and quality of service for students, teachers and researchers [6].





The Aleph system provides access to electronic resources. Students, teachers and researchers can easily search and access electronic books, magazines, databases and other digital materials through the online catalog

libraries. This ensures convenience and accessibility for users, especially in today's digital environment.

Systems recruiting and student application management:

University Chicago. The University of Chicago uses the Slate platform to manage its admissions process [7]. This system provides a complete application cycle, including receiving applications, interacting with candidates, and making admissions decisions [8].

One of the key features of the Slate platform is the automation of the student admissions process. With this system, the university can efficiently collect applications from potential students, process them, track the status of applications, and analyze data to make informed decisions.

Slate provides interaction with candidates throughout the admissions process. Students can easily submit their applications through an online portal, track the status of their applications, submit required documents, and communicate with university representatives through built-in communication tools.

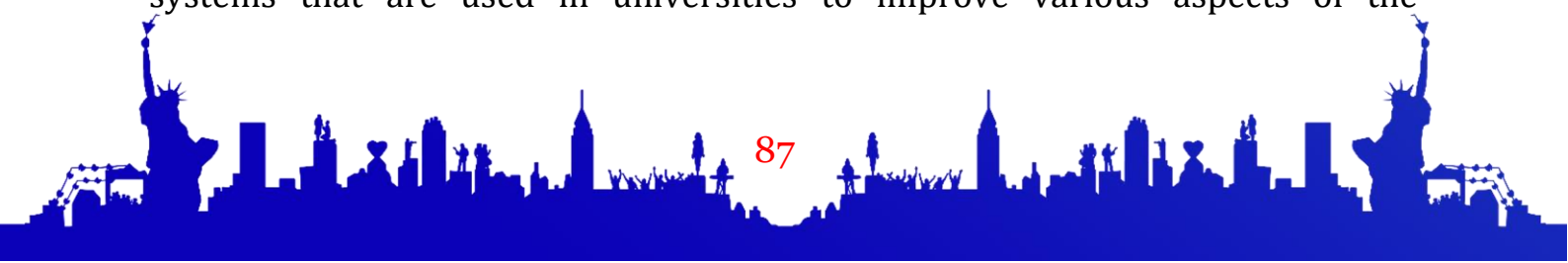
Slate's system helps the University attract and select the best candidates by providing them with convenience and transparency in the application process and interactions with the University.

Systems electronic mail and collaborations:

University Arizona State, ASU. Arizona State University ASU actively uses Google Workspace in its educational and administrative activities [9]. Google Workspace provides students and faculty at the university with access to a wide range of tools for effective work and communication. With Google-powered email, students can communicate with faculty and other students, exchange information, and participate in academic discussions.

Additionally, Google Workspace provides the ability to collaborate on documents, presentations, and spreadsheets using Google Docs, Google Slides, and Google Sheets [10]. This allows students and teachers to work on projects in real time, share ideas and suggestions, and receive feedback from peers and experts.

These examples demonstrate the diversity of automated information systems that are used in universities to improve various aspects of the





educational process and increase the efficiency of educational resource management.

**Conclusions.** The conclusions of the scientific article on the technology of improving the quality of education using automated information systems in the educational process emphasize a number of key points:

Implementation of automated information systems in educational institutions is a promising and effective means for improving the quality of education and improving the learning process.

The use of automated information systems in the educational process allows for the personalization of the educational process, adapting it to individual needs of students and providing access to a variety of educational resources.

However, the implementation of technologies requires not only technical preparation and infrastructure, but also staff training, as well as support from the administration of the educational institution.

The benefits of using such systems include improved student motivation, activity and independence in the learning process, which affects their academic performance and achievement.

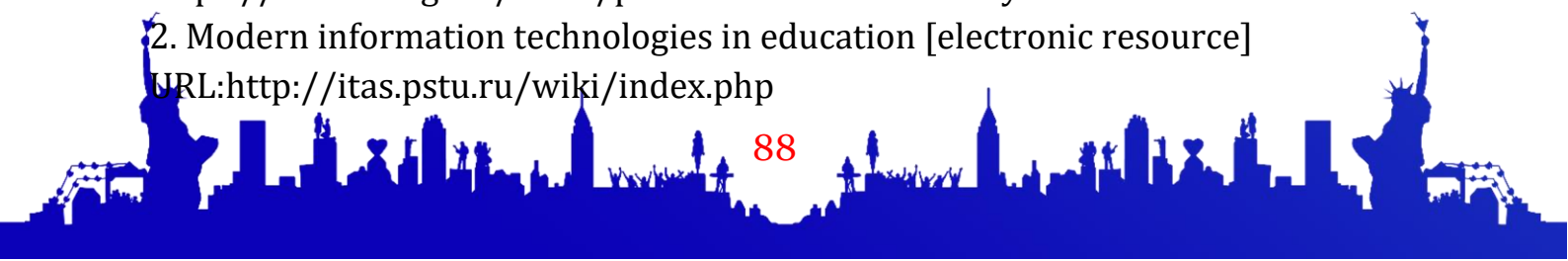
The introduction of automated information systems also contributes to the improvement of the efficiency of management of educational processes, student registration, class schedules and financial aspects. This allows educational institutions to optimize their activities and reduce time costs for administrative processes.

At the same time, it is necessary to take into account the disadvantages of using automated information systems, such as the possibility of technical failures, dependence on the availability of technology and the need for staff training.

Ultimately, the use of technology in the educational process opens up new opportunities for improving education and preparing students for the demands of the modern world. Further research in this area should be aimed at analyzing the effectiveness of various technologies, studying their impact on interpersonal relationships and student motivation, and developing innovative methods and approaches to using technology in the educational process.

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