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# Innovative Model of a Digital University

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ABSTRACT

The article explores the concept of a digital university as an innovative model within the education system, integrating the latest technologies to automate educational and administrative processes. The digital university provides personalization of educational trajectories, enhances the quality of education through artificial intelligence, and provides access to education for students from all over the world. The model incorporates the use of cloud platforms, virtual teachers, mobile applications, and cybersecurity systems, which together foster the development of specialists capable of thriving in the digital economy. It is noted that the digital university model is envisioned as an innovative ecosystem of life-long learning, ensuring continuous access to educational resources through modern digital technologies. The development and implementation of this model are expected to contribute to the formation of highly qualified professionals who can work effectively in the digital economy.

Key words:

digital university, artificial intelligence, automation

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# Створення педагогічних умов для формування ціннісної свідомості у студентів українських університетів

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АНОТАЦІЯ

У статті досліджено концепцію цифрового університету як інноваційної моделі в системі освіти, яка інтегрує новітні технології для автоматизації навчальних і адміністративних процесів. Цифровий університет забезпечує персоналізацію освітніх траєкторій, покращення якості навчання через використання штучного інтелекту, та надає доступ до освіти студентам з усього світу. Модель включає використання хмарних платформ, віртуальних викладачів, мобільних додатків, систем кібербезпеки, що сприяє формуванню фахівців, здатних адаптуватися до умов цифрової економіки. Зазначено, що модель цифрового університету виступатиме як інноваційна екосистема життєвого навчання, що забезпечуватиме безперервний доступ до освітніх ресурсів за допомогою сучасних цифрових технологій. Розробка та впровадження цієї моделі сприятиме формуванню висококваліфікованих фахівців, здатних ефективно працювати в умовах цифрової економіки.

**Ключові слова:**

цифровий університет, штучний інтелект, автоматизація

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## Introduction / Вступ

An important factor in the progress of any sector in society is the efficiency of utilizing modern information and communication technologies. Alongside the dynamic development of the economy, medicine and politics, the education system is also experiencing significant transformations (Kolodinska at all, 2022, p. 54). Society increasingly demands the implementation of innovative learning models that address current challenges and promote the comprehensive development of individuals. The integration of information and communication technologies into the educational process enables personalized learning, enhances student motivation, expands access to knowledge, and prepare young people for life in the information society (Bobro, 2024, p. 55; Huk at all, 2022, p. 104).

One of the most promising models in this context is the concept of a digital university. This model leverages a broad array of digital tools and platforms to ensure both the quality and accessibility of education. A digital university incorporates the advanced technologies such as distance learning, digital learning platforms, virtual laboratories, and artificial intelligence to create a flexible, adaptive, and personalized learning environment.

The purpose of the study is to substantiate the concept of a fully digital university that automates all educational and administrative processes, personalizes educational trajectories, enhances the quality of education through the integration of artificial intelligence, and provides access to quality education accessible to students globally.

## Results / Результати

Hybrid learning models, which are currently being actively implemented, represent a progressive step in the evolution of education but still retain significant elements of traditional approaches (Bobro, 2024, p. 40; Kolodinska, 2023, p. 62). In contrast, the proposed model envisions the creation of a fully digital university, where all processes, from admission to graduation, are automated and integrated with artificial intelligence. This digital university will offer personalized learning experience: artificial intelligence will analyze data on each student to create individualized learning trajectories tailored to their needs and abilities. Administrative tasks will also be automated, streamlining processes from registration to graduation, thus reducing the workload of administrative staff and minimizing the potential for human error. In addition, the quality of education will be enhanced, as artificial intelligence will continuously monitor student progress, identifying issues promptly and providing targeted support. Finally, the digital university will create the opportunity to receive a quality education for students worldwide, regardless of their place of residence.

The proposed model of a digital university involves the establishing a centralized cloud platform for storing and processing all student, faculty, and teaching materials. This platform will ensure continuous access to information and support the rapid processing of large volumes of data. A critical component of this model will be a high-speed Internet connection, enabling students and faculty from around the world to use all university resources seamlessly and without interruption.

The software will form the foundation of the digital university, incorporating automated systems for processing applications and managing the student database, which will significantly streamline administrative tasks. E-learning systems will facilitate lectures, testing and student assessments in a remote format, allowing the educational process to be tailored to each student's individual needs. Artificial intelligence and chatbots will be integrated to provide prompt answers to students' questions and support users, enhancing interaction and engagement.

One of the innovative features of the digital university will be the use of virtual teachers and avatars. These digital entities will deliver lectures and interact with students, creating a sense of presence and offering an individualized approach to learning. Mobile applications for students and teachers will facilitate easy access to schedules, grades, learning materials, and communication opportunities. This will greatly improve the organization of the educational process and ensure that resources are accessible anytime and anywhere.

Particular attention will be given to testing and evaluation systems, which will enable online exams, tests and thesis defenses. These systems will ensure high-quality and objective

assessments, thereby increasing confidence in learning outcomes. The protection of personal data for students and teachers will be assured through advanced cybersecurity technologies designed to prevent unauthorized access to confidential information.

The digital university will also feature a robust technical support system, available to assist users with any issues or questions. The training materials will be designed to meet the standards of distance learning, incorporating interactive tasks and supplementary resources for self-study.

This model of a digital university will serve as an innovative ecosystem for lifelong learning that provides continuous access to educational resources through modern digital technologies. This approach will support the development of highly qualified professionals who can adapt to the evolving digital economy and effectively tackle complex professional challenges.

## Conclusions / Висновки

The proposed concept of a digital university holds significant potential for transforming modern education by automating educational and administrative processes, personalizing learning paths, and enhancing educational quality through the integration of artificial intelligence. This model not only addresses the challenges of contemporary society but also broadens access to high-quality education for students worldwide. The development and implementation of this model will foster the creation of highly qualified professionals equipped to excel in the digital economy.

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