INTEGRATION OF SMART TECHNOLOGIES INTO THE MODERN EDUCATIONAL PROCESS

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Annotation: *This article examines the essence, features, and potential of smart technologies in the vocational education system. The study highlights the transition from traditional teaching methods to innovative smart technologies and analyzes their impact on the development of students' professional competencies. Based on the analysis of scientific sources, the paper defines the main directions, goals, and tasks of implementing smart technologies in the educational process. The role of tools such as gamification, case-based learning, web quests, mobile and project-based learning in improving the quality and interactivity of education is discussed.*

Keywords: *smart technologies, smart education, vocational training, digital transformation, innovative learning, professional competencies, interactive learning environment.*

INTRODUCTION

In modern society, the introduction of innovative technologies into all spheres of life has become an integral component of national development. Today, the processes

of digital transformation are profoundly influencing the education system, leading to a shift from traditional teaching methods to technology-driven, interactive, and adaptive smart technologies. These innovations create new opportunities for the individualization of learning, increased interactivity, and the development of students' professional competencies.

A general formulation of the problem and its connection to important scientific and practical tasks.

Currently, the introduction of innovations into all spheres of society is an integral part of the country's development as a whole. Innovative development has not ignored the education system, and a transition from traditional technologies to smart technologies has begun.

An analysis of recent studies and publications examining aspects of this problem and on which the author bases this work; identification of previously unresolved aspects of the overall problem. Over the past few years, numerous studies devoted to smart technologies in education have appeared in the scientific literature [1].

N. A. To‘xtayeva note that smart technologies are grounded in knowledge and information. In their opinion, smart technologies provide the foundation for creating qualitatively new forms and methods of teaching and learning. They contribute to the development of students' professional competencies and the continuous renewal of academic disciplines[4].

E. S. Belova states that the implementation of smart technologies in the education system requires two fundamental factors:

- setting a specific goal, namely, developing the skills and abilities necessary for students to succeed professionally in the modern digital world;

- creating an intellectual environment for the continuous and effective development of competencies among all participants in the educational process [3].

U.M.Ubaydullayev defines smart education as a new vector for the development of the entire education system, emphasizing its role in promoting practice-oriented learning [6,7].

Turdiyeva M.I interprets the concept of “smart technology” as an innovative approach in which the educational process takes place within an electronic environment based on Internet technologies [8].

Markova, S.M. proposes the following components for implementing smart technologies in the vocational education system:

- adaptation and personalization of the learning and teaching process;
- freedom of learning in an electronic interactive educational environment;
- unlimited access to information worldwide [9].

Prokhorova, M.P emphasizes the need for teachers to undergo mandatory training and professional development courses in computer literacy in order to effectively implement pedagogical activities using smart technologies. [10]

Society's need for competent specialists who possess the means and methods for the integrated use of smart technologies is increasing and is becoming a leading factor in the professional training of specialists.

A presentation of the main research material with a full justification of the obtained scientific results. Smart learning technologies are a type of pedagogical technology that utilize various hardware and software tools for working with knowledge and information.

Currently, smart technologies facilitate the immersion of all participants in the educational process in an electronic educational environment. The goal of smart technologies in the vocational education system is the creation and use of information resources in accordance with the needs of participants in the educational process, as well as the acquisition of professional competencies.

The main objectives of introducing smart technologies into the educational process are:

- *the creation of individual electronic educational resources to develop new competencies in students, as well as for independent study of educational material;*

- *the creation of information resources through the joint activities of all participants in the educational process;*

- *the creation of an environment for interaction between students and with expert communities on the Internet [10].*

Smart technologies include:

- *gaming technologies (gamification technologies)* – involve the use of laptops to incorporate game elements into the learning process. Gamification helps develop students' professional competencies, creative thinking skills, and independent decision-making;

- *case-based learning technology* – aims to analyze and resolve specific situations presented in a case study. Since e-learning is actively used in the implementation of case studies, it can be classified as a smart technology. Cases are typically based on real-world problematic situations. There are certain rules for compiling cases: a problematic situation is described; the given problematic situation should not have a clear-cut solution; specific data is provided that allows for finding a solution to the problem; the solution to the problematic situation should be aimed at the active application of various competencies;

- *web quest technology* – this technology allows students with disabilities to become full participants in the educational process. In addition, web quests can increase students' motivation for learning and organize educational activities in an interactive format;

- *Internet technology* – this technology involves interaction between participants in the educational process on the Internet. It facilitates the transfer of knowledge between students, thereby ensuring mutual assistance and interaction;

- *Mobile learning technology* – involves the use of necessary information from various electronic media;

- *Project-based learning technology* – this technology is aimed at developing specific competencies in students aimed at completing professionally oriented tasks. Practice-oriented, simulation-based, and information-analytical projects are distinguished.

The main technical means for implementing smart technologies in the education system are: personal computer; keyboard and mouse; telecommunications unit; printer; projector; devices for recording (inputting) information; video and audio media; mobile devices; computer-controlled devices. One of the key functions of smart technologies in the education system is the interactive smart board. Interactive smart boards enable the active use of whiteboards, incorporating tactile communication into the learning process and providing access to visual and audio capabilities. These boards allow all students to choose their own personalized way of working with educational material. Smart boards are more resistant to mechanical damage, but have one significant drawback: writing on them is impossible without a special stylus.

Smart technologies in vocational education are changing the content of subjects studied, as well as the delivery of information. These include not only presentations or videos, but also direct connections to information networks, databases, and forums.

Comparison of the obtained results with those of other studies. Most studies devoted to smart technologies do not cover all their capabilities. In this article, we systematize the information and fully explore the potential of these technologies in student professional training.

CONCLUSIONS

Conclusions of the study and prospects for further research in this area. In the course of our work, we achieved our goal: we revealed the potential of smart technologies in vocational education. The introduction of smart technologies into vocational education offers the opportunity to choose from a variety of modern methods, forms, and means of organizing the educational process. Modern smart technologies in the education system contribute to the development of students' creative abilities and the development of their professional competencies. Prospects for further research in this area are discussed. The identified potential of smart technologies necessitates their further integration into the educational process.

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