



SMART TECHNOLOGIES AS A MEANS OF INCREASING EDUCATIONAL EFFICIENCY

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Abstract

In this work, an opinion is made about the improvement of educational efficiency of SMART technologies used in the educational process.

Keywords: information, education, SMART technology, Internet, educational process.

Introduction

Globalization of the world's information space, openness and the strengthening of mass communication are expanding the possibilities of ensuring the professional and creative development of learners in an integrated educational environment. In Europe, Smart is a program to create a "Single European University" based on the principle of education, in the USA Smart is a program to create a great revolution in education in the philosophy of education in this decade, SMART Education in South Korea is an initiative of digital textbooks and KERIS is an edunet system. , IBM - the concept of education for a smart planet, the Chinese PLS (Personal Learning Space) model system, the "Smart University" is being formed in Moscow, Omsk, Perm, Kazan universities in Russia. SMART is a feature of a system or process that manifests itself in interactions with the environment and gives the system the ability to process, respond immediately to changes in the external environment, adapt to changing conditions, independent development and change. self-management allows for effective performance of results. Today, the main tools of SMART technologies are IoT (Internet of things). Internet of things IoT (Internet of things) is a network system consisting of special electronics, software, sensors, receiving and transmitting devices for mutual information exchange, remotely controlled household appliances, vehicles and artificial intelligence. others. IoT empowers technology researchers to develop smaller and cheaper wireless systems that consume less power and can connect to almost any type of device.

SMART - education is essentially a new educational environment; is to combine the forces of teachers, specialists and students, that is, educational activities, to use the world's knowledge and to move from passive content to active content. Smart is an educational process - an educational process organized on the basis of innovations





and the use of the Internet; it provides an opportunity to acquire professional competences based on the study of subjects, taking into account the systematic multidimensional vision and multifacetedness and continuity of renewal. In the field of education, SMART technologies mean the following: smart-boards, smart-learning manuals, smart-projectors, software for creating and distributing electronic educational materials of an interactive and communicative nature. "SMART-education" is a new paradigm for the development of educational informatization. It supports the individualization of education through on-demand services and an open learning environment. The essence of smart education is to create a smart environment through the use of smart technologies, so smart pedagogy provides personalized learning services and empowers students, as well as better value judgment, higher thinking quality and stronger behavior. It is possible to strengthen the ability of wisdom. The main principles of SMART-education include the following:

1. Use of current information in solving educational issues provided for in educational programs: the speed and volume of information flow in education for any professional activity is developing rapidly. , which in turn requires supplementing existing learning materials with real-time information to prepare students to solve practical problems.
2. Organization of students' independent learning, research and design activities. This principle is considered to be of priority in students' creative research and scientific research in solving problems.
3. Implementation of the educational process in a wide educational environment. The educational environment should not be limited by the territorial boundaries of the educational institution or distance education system. The educational process should be continuous.
4. Flexibility of educational directions and individualization of education, that is, orientation to the person. The variety of educational activities requires providing students with wide opportunities for teaching educational programs and courses, using equipment in the educational process, their health care opportunities, material and social conditions. Education at the SMART university should be adapted to the student's abilities as much as possible and based on the technologies known to everyone today. For this, SMART universities must meet the following requirements: flexibility, compatibility, innovation. SMART-technologies are very important in education, on the one hand, they allow to optimize the costs of material and technical support of the educational institution, and on the other hand, to raise the quality of educational services and products to a new level. Smart Campus is a collaborative center with an active learning program, equipment and facilities used by the educational institution through cooperation with key users (students, teachers, researchers) supported by the European Commission. a project aimed at increasing the efficiency of energy sources. Smart Campus has many



opportunities, which can be divided into three main categories: Smart Living, Smart Learning and Smart Safety & Security. All of this will help students engage, help them get into the lifestyle of an educational institution, and provide them with all the resources they need to succeed. In the field of educational system, Smart Campus creates individual personal computing tools for each student to implement new learning and teaching models. Smart Campus technology can change the traditional way students learn. Smart ID cards, used to automate attendance, voting and access to academic buildings, will be integrated with student information systems. As it frees students and teachers from the physical space, they gain more flexibility and freedom over time. By recording and archiving all lectures, a sick student can review every second of every lecture when they miss class or just want to review before an exam. Many of the technologies involved in Smart Campus programs are not entirely new - they are used in new ways. What is very important for the Smart Campus platform is the open API (open interface).

SMART - elements of education. Today, we will focus on the use of SMART technologies and IoT - "Internet of things" in the educational process in foreign countries. The Singapore Polytechnic University has a "Smart Campus" where every student who enters is identified by an electronic concierge. Electronic Concierge is an Internet service system that provides quick information in various fields, answers to inquiries, navigation and other services. This system acquaints students with university news and the list of literature recommended by professors and teachers. The data analysis is perfectly structured, and it even allows to identify in advance the students who will not be able to submit the course work on time and inform the science teachers about them. The use of the Internet of Things has been launched at the John Curtin University of Australia. Based on the information obtained with the help of this system, conclusions are made about the occupancy of auditoriums and libraries, attendance, and the daily life of professors and teachers and students. At the Malaysian Technological University, it collects information about students from the beginning to the end of education based on artificial intelligence. With the help of such observation, their participation in training is studied, and this information is the basis for making further decisions. The artificial intelligence will analyze the lessons and provide advice on how to improve their quality. In Japan, students can participate in a "virtual school" using a full set of virtual reality, listen to teachers and take tests using a special program for smartphones, and communicate with other schoolchildren through a specially created platform. Individual teachers are assigned to students, and students can get answers to their questions by phone or e-mail, and meet with the teacher if necessary. SweetRush (<http://www.sweetrush.com/>), based in San





Francisco, California, USA, develops and tests educational solutions for e-learning and mobile learning. It is possible to receive individual training under the guidance of a teacher-guide, which allows you to communicate again in real time. The course consists of tools such as competitive games and audio-video animations, which help to attract many participants. In Washington, DC, BLACKBOARD (<https://www.blackboard.com>) has created what it calls the "Linked Learning Skills and Support Network" for K-12 and beyond. While digital learning environments shape personalized learning, virtual classroom technology expands opportunities for collaboration. Dedicated websites provide parents and students with information on the latest grades, news and events. Blackboard Mobile Credential helps students pay for campus access, meals and other services by registering their student IDs from a dedicated app on iPhones and Apple Watches. The Magicard system in Weymouth, UK produces a variety of smart cards for students. These cards are connected to student authentication control systems using IoT (Internet of things). With the help of IoTs, students get permission to access and use various resources (coursework, electronic resources for distance learning, etc.), make payments for various services. expands the possibilities of personal development and forms the necessary creative potential in them. SMART-technologies and the "Internet of Things" (IoT) serve as the main teaching aids in education. It should be noted that in our country SMART-technologies and clear methodical recommendations based on concepts and scientific research on the use of IoT-Internet of Things tools in the educational system have not yet been developed.

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