

Roman Gurevych

Doctor of sciences (Pedagogy), Professor, Full Member (Academician) of NAPS of Ukraine, The Director of the research Institute of Pedagogy, Psychology, training highly qualified specialists of Vinnytsia State Pedagogical University named after Mykhailo Kotsiubynsky, Vinnytsia, Ukraine
E-mail: imfito@yandex.ua; imadvdpu@gmail.com.

Maya Kademiya

PhD in Pedagogical Sciences, Professor of Vinnytsia State Pedagogical University named after Mykhailo Kotsiubynsky, Vinnytsia, Ukraine
E-mail: maj.kademija@gmail.com

SMART-EDUCATION – A NEW PARADIGM OF MODERN EDUCATION SYSTEM

Abstract: The article deals with the problem of improvement of education in higher education establishments through the development of e-learning and the transition to smart education, the definitions of smart education, using modern ICT, development of massive open online courses and their educational use in universities, training of workers and their retraining, three components are considered: technological, organizational, educational, underlying the implementation of smart education in universities.

The implementation of smart education in universities will contribute to the production of competencies and skills in accordance with rapidly changing conditions of the modern labor market and prepare the individual for lifelong learning.

Keywords: smart-education, e-learning, e-smart training, training, traditional training.

Roman Gurevych, Maya Kademiya

An extended abstract of a paper on the subject of: **“Smart-education – a new paradigm of modern education system”**

Problem setting. Intensive development of information and communication technologies (ICT), the introduction of electronic learning (e-learning) traditional education gradually led educational system to the smart education (smart-education). There is no clear concept of smart education up to now, and a paradigm in education is only being formed that is technological, organizational, pedagogical decisions which contain the particular innovation potential. Currently popular is the concept of “smart”. Review of the concept of smart structure took place in the context of aerospace technology. The main feature of smart structures is to respond to the environment and changes in it by touch, signals, communications and other integrated elements.

Recent research and publications analysis shows that problems of substantiation of democratic processes in the Ukrainian educational system and prospects of a quality specialist training, professional growth are reflected in the works of A. Alexuk, A. Boyko, H. Vasyanovych, T. Zavgorodniy, I. Zyazyun, V. Kremen etc.

To the improving of the education system based on the use of modern information and communication technologies the researches of V. Bykov, M. Zhaldak, I. Zakharova, N. Koziar, V. Kukharenko, A. Spirin, Ye. Polat, I. Robert, I. Traynyeva etc. are dedicated. The research results of scientists indicate that all of the above have a significant impact on the quality of training of modern specialists.

Paper objective is to review the concept of “smart education”, the principles of its construction, implementation, and impact on quality of specialists training in universities.

Paper main body. The article presents the definition of smart-education, development of massive open online courses and their use in the educational process of higher education, qualification of employees and their training, and considers three components: technological, organizational, pedagogical, underlying the implementation of smart education at the universities. Smart education is an educational paradigm that underlies the educational system of a new type. Implementation of the paradigm of smart education process aimed at obtaining competences and skills for flexible and adopted engagement with social, economic and technological environment. Smart education should provide opportunity to take advantage of the global information society to ensure the educational needs and interests.

The basic principles of smart-education:

1. The use of current information training programs on the solution of educational tasks.
2. Organization of independent educational, research and project activities of students.
3. The implementation of the educational process in a distributed learning environment.
4. The interaction of the students with the professional community.
5. Flexible educational trajectories individualization of learning.
6. The diversity of educational activities.

To implement the smart learning requires the implementation of three components: technological, organizational and pedagogical.

The use in educational process of an ideal smart education requires a serious pedagogical reflection and introduction of pedagogical development, allowing to intensify educational process and improve its quality, and this requires a revision of already existing organizational forms of educational work, etc.

The technological component is based on the information smart technologies. Properties of information technology is interactivity, the ability to data mining, the ability to personalize data, the ability to create a virtual personality of the user. In the educational process can be used a variety of multimedia capabilities that allows you to create learning content.

An organizational component of the smart education is based on the efficient use of smart technologies. Educational programs should be formed on the basis of specialization of education, taking into account individual learning paths and the possibility of integration of different educational programs taking into consideration the fact that educational programs must comply with the principle of lifelong learning (lifelong learning).

Special attention should be paid to the management of educational content and learning resource in the smart education. With this purpose it is necessary to constantly adjust the educational resources to supplement information from websites and blogs, web-quests etc. This also requires the implementation of management academic knowledge that will provide flexibility in the development and use of educational content.

The pedagogical component of smart education is a set of learning outcomes and pedagogical methods and technologies to achieve them. Based on these methods and technologies the means of training are formed and used the specialized information smart technology. The use in the educational process of the ideology of smart education now requires serious pedagogical reflection and introduction of new pedagogical developments, allowing to intensify educational process and improve its quality. It is necessary to review the existing organizational forms of training: to increase independent individual and group work of students, number of creative and research projects.

Conclusions of the research. So, smart education is now forming the paradigm in education. Component of the “smart” defines the properties of a system or process that occur in the interaction with the surrounding environment, which responds to changes and adaptation in the education system.

Smart education is an education system that is the basis for a new education system that provides for adaptive implementation of the educational process, which uses information smart technology. The use of modern ICT requires changing the educational paradigm: the transition from traditional learning to electronic learning (e-learning), and from it to smart education (Smart

education). This process is the cooperation of higher education institutions. This process involves the creation of a virtual learning environment, the use of interactive ICT, regular updating of content and monitoring the quality of education.

Implementation of the paradigm of smart education aimed at the acquisition of knowledge, skills and competencies in interaction with a changing interaction with the social, economic and technological environment which is based on technological, organizational and pedagogical components.

References:

1. Yunfeng Zhang and Le-Wu Lu. Introducing Smart Structures Technology into Civil Engineering Curriculum: Education Development at Lehigh University / Yunfeng Zhang and Le-Wu Lu. // Journal of professional issues in engineering education and practice. – 2008. – January. –pp. 41-48.

2. Tikhomirov V. P. the World on the path of Smart Education: new opportunities for development / V. P. Tikhomirov // open education. – 2011. – vol. 3. – pp. 22-28.

3. Smart Technology based Education and Training // Smart Digital Futures. – Amsterdam: IOS Press BV, – 2014.