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SMART TECHNOLOGIES IN THE PROCESS OF PREPARING FUTURE TEACHERS

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Abstract. The reform of modern education makes new demands on the teaching staff. A freely and actively thinking, predicting the results of his activities and, accordingly, modeling the educational and educational process, the teacher is the guarantor of the solution of the tasks. Today, the demand for a highly qualified, creatively working, socially active and competitive personality of a teacher has increased, capable of raising a socialized personality in a rapidly changing world. The results of the socio-economic and spiritual development of society directly depend on the level of professionalism of teachers, their ability to continuous education. The purpose of this article is to determine the basic concepts of SMART and its role in society; the need for its use of SMART technologies in the process of training future teachers is also revealed.

抽象的。现代教育改革对师资队伍提出了新的要求。自由而积极地思考，预测他的活动结果，并相应地对教育和教育过程进行建模，教师是任务解决方案的保证人。今天，对教师的高素质、创造性工作、社会活跃和竞争个性的需求增加了，能够在瞬息万变的世界中培养社会化的个性。社会经济和社会精神发展的结果直接取决于教师的专业水平、继续教育的能力。本文的目的是确定SMART的基本概念及其在社会中的作用；还揭示了在培训未来教师的过程中使用SMART技术的必要性。

1 Introduction

Currently, the learning process has moved from the traditional classroom to the virtual sphere of space, which was facilitated by a number of factors: the digital world has completely changed access to information and information management, teaching collaborates more closely in the digital world, the student / student not only passively receives information, but and plays a very active role in the learning process, he is an author, creator, evaluator and critical commentator. The learning process and scientific activity are based on the active use of information technologies.

Today, the Internet opens up great opportunities for the implementation of technologies for constructing training courses with unlimited possibilities, involving the creation of highly effective systems that meet the most stringent training requirements. SMART technologies and the Internet are becoming more accessible and create new opportunities for scientific projects and training, enrich the educational process with interactive programs and multimedia content. Interactive multimedia tools help to improve the effectiveness of learning, and high-tech tools for collecting, storing and analyzing information contribute to effective control over the learning

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process (2). Such forms contribute to the development of skills of independent learning and self-control, which leads to the democratization and humanization of the educational process. This makes students and pupils very motivated learners and the learning process is not tedious and monotonous (1).

2 Materials and methods

Methods. We used in this article methods of statistics, comparative analysis, work with documents, questionnaires.

Literature review. The use of new pedagogical technologies, ACT, innovative ideas and SMART technologies, innovations, informatization of the educational process has been studied by scientists A.A. Aletdinov (2), A.A. Melnichenko (2), B.L. Agranovich (1), E.I. Yakushkina (1), A.A. Novikova (1), N.Rustamova (16, 17, 10, 5), D.Yunusova, I.Ilhamova (5), A.M. Karmanov (12), I. G. Borisenko (4), G. A. Pollak (15), N. V. Dneprovskaya (6), R.Isyanov, K.Rustamov (10), E. A. Yankovskaya (6), I. V. Shevtsova (6), A.V. Nesterov (14), U. Aripova (3), Yu. F. Telnov (20), E.R. Ipatova (20), H. Nakashima (13), H. Aghajan (13), J.C. Augusto (13), A.V. Shiryai (18), T.L. Gerasimenko (9), I.V. Grubin (9), T.M. Gulaya (9), O.N. Zhidkova (9), S A. Romanova (9), M.Donadze (7), D.Ivanchenko (11), I. Morkhova (21, 22, 23) and others.

3 Results and Discussion

The quality of the teaching staff is the most important component of the educational system because the implementation of all other components directly depends on the human resources that provide this or that educational system.

It is the teachers who are entrusted with the function of implementing educational programs of the new generation on the basis of advanced pedagogical technologies, they have defined the mission of preparing the younger generation for life in the future and educating a person with modern thinking, who is able to successfully self-actualize in life (16).

The attention to the problem of professional development is explained by many factors:

- the growing volume of scientific information;
- progress in the field of engineering and technology;
- integration of education, sciences and production;
- deepening global demographic, economic, energy and economic) problems.

To a certain extent, we can say that at the beginning of the 21st century, the stage of acquaintance with information and communication technologies (ICT) ends, mastering them in a real educational process, creating a modern information infrastructure, and releasing fundamentally new multimedia educational products. Natural questions arise: how to evaluate the experience gained and what to do next? Something is already indisputably clear. For example, the traditional understanding of the educational process is difficult to reconcile with the use of ICT, and these difficulties are by no means overcome, but are constantly growing, sometimes acquiring exotic forms, for example, the creation of completely informal educational communities in the world computer network; displacement of educational institutions "real" by "virtual". The problem of "ICT and education" turns out to be much more fundamental than it seemed before. ICTs "do not want to be reduced" to new learning tools, they claim to be in the very essence of learning.

Smart education is a concept that involves the comprehensive modernization of all educational processes, as well as the methods and technologies used in these processes. The concept of Smart in an educational context entails the emergence of technologies such as a smart board, smart screens, Internet access from anywhere. Each of these technologies allows you to restructure the process of content development, delivery and actualization. Learning becomes possible not only in the classroom, but also at home and anywhere: public places such as museums or cafes. The main element that connects the educational process is active educational content, on the basis of which unified repositories are created, allowing to remove time and space frames.

At the present stage of ICT development, needs are increasingly emerging that cannot be satisfied not only by classical educational technologies, but also by e-learning technologies.

Currently, there is a transition from e-learning to Smart English - smart, smart, energetic) e-learning and Smart Education smart education). The concept of Smart Education is flexibility, assuming the presence of a large number of sources, the maximum variety of multimedia, the ability to quickly and easily adjust to the level and needs of the listener.

In the context of constant growth and renewal of knowledge, the continuous development of competencies throughout the entire career becomes the most relevant in the modern education system.

The influence of human capital is no longer sufficient for the development of education. It is necessary to change the educational environment itself, not just to increase the volume of education of labor resources, the content of education itself, its methods, tools and

environments must change qualitatively, a transition to SMART education is necessary.

It is necessary to develop competencies such as analytical skills, complex problem solving skills, innovativeness - the ability to develop new ideas and their implementation, intercultural communication skills. Professor MESI V.P. Tikhomirov very accurately expressed the main position of the development of education today: "The old education system in no way prepares people for work and life in a SMART society. Innovation is impossible without SMART technologies. If the education system lags behind these directions of development, then it becomes a brake".

The concept of SMART in education arose after the penetration into our life of various smart devices that facilitate the process of professional activity and personal life (smartphone, smart home, smart car - an intelligent car, smartboard - an interactive intelligent electronic board, SMART system for self-diagnosis of a computer hard drive). SMART means increasing the level of intelligence of devices that shape the environment for a particular type of activity. The transfer of this concept to education is at an early stage, the terms and basic concepts are in the process of formation. The understanding of SMART in relation to education ranges from the use of smartphones and other similar devices to deliver knowledge to students to the formation of an integrated intelligent virtual learning environment, including using devices of the SMART category.

The speed of emergence of new technologies in the last decade has grown significantly, each year manufacturers offer new devices for professional activities and communications. New smart SMART technologies require changes in the platforms used for knowledge transfer and

widespread use of SMART devices. Vocational education should be one of the fastest growing industries, both in terms of content and in terms of technology and teaching methods. The speed of knowledge and technology renewal should be considered as a criterion for the quality of the education system.

It is already becoming the norm to conduct training sessions using multimedia presentations made in software packages such as Microsoft Power Point or Macromedia Flash. However, along with the usual presentation technologies (Microsoft Power Point, Macromedia Flash), new, so-called interactive technologies are penetrating into the education sphere, which make it possible to get away from the presentation in the form of a slide-show.

A new form of presentation using interactive equipment (interactive whiteboards SMART Boards, interactive displays Sympodium) is a presentation created by the speaker during his speech - a presentation created here and now. On SMART Boards interactive whiteboards, you can write with a special marker, demonstrate educational material, and make written comments over the image on the screen. In this case, everything written on the SMART Board interactive whiteboard is transferred to students, saved on magnetic media, printed, and sent by e-mail to absent students. Lesson material created during a lecture on a SMART Board interactive whiteboard is recorded by a built-in video recorder and can be played back many times.

There are several technologies available to make your whiteboard interactive. One technology is resistive sensor technology, the other is DViT technology from SMART Technologies. It uses special digital video cameras located at the corners of the screen. In addition, with the help

of a special attachment, you can turn any plasma panel into an interactive whiteboard.

Of course, special software (SMART Notebook, Bridgit, SynhronEyes) has been created to maximize all the properties of SMART Boards interactive whiteboards. Each of these programs has its own characteristics. SMART Notebook lets you work with text and objects, save information, and turn written text into typed text. The Bridgit program allows you to quickly and easily deliver presentations to partners around the world, get feedback on your document. As soon as you highlight the key positions of your speech on the general desktop, the program immediately displays all your notes in real time on the screens of the rest of the conference participants. With the help of the SynhronEyes software package, the teacher can monitor what students are doing, display all student monitors on the blackboard, block student monitors, send educational material from the interactive whiteboard, for example, a test, to all computers. When working on interactive whiteboards, students' concentration improves, learning material is absorbed faster, and as a result, the performance of each student increases.

The introduction of new technologies in the field of education leads to a transition from the old scheme of the reproductive transfer of knowledge to a new, creative form of education. One of the main tasks of modern education is to create a stable motivation for students to acquire knowledge, the other is to search for new forms and tools for mastering this knowledge with the help of creative solutions.

5 Conclusion

Information technology is rapidly conquering the world. They penetrate and have already largely penetrated) into all spheres of human activity:

production, service, culture, education. In recent decades, few truly valuable scientific discoveries have been made, but technologies have rapidly developed and continue to develop, among which information technologies occupy a particularly honorable and significant place. Much has already been done, but the scope of work is not diminishing. To us, as representatives of higher education, the most interesting problem lying in this plane seems to be the construction of computer support systems for the computerization of the educational and scientific process. The problem is relevant on a global scale: both in the post-Soviet space and in the countries of the European Union (15). This, in particular, is associated with the constant modernization of national education systems, the development of the Bologna process, and finally, with the complexity of the subject area and the lack of sufficiently complete and adequate descriptions of it.

Creation - organization of an intellectual environment for the continuous development of the competencies of participants in the educational process, including activities of the formal and informal learning process, the result of which are changes in demonstrated behavior through the use of acquired new competencies. The goal is to provide the skills needed to be successful in a digital society and smart economy. Main characteristics of SMART education:

1. Ensuring compatibility between software developed for different operating systems, to ensure the possibility of realizing the continuity of the educational process and the integrity of scientific information.
2. Independence from time and place, mobility, ubiquity, continuity and ease of access to educational information.

3. The relationship between the individual and organizational goals of employers and the institution.
4. Evaluation of the demonstrated changes in competencies - the effectiveness of the educational process is measured not so much by the knowledge gained as by the possibility of their application in practice.
5. Flexible learning in terms of preferences and individual capabilities of the student, including such as: background knowledge, experience and skills.

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