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INFORMATION AND COMPUTER TECHNOLOGIES FOR ASSESSING THE EFFECTIVENESS OF EDUCATIONAL PROCESSES IN EU UNIVERSITIES

The article deals with some aspects of application of computer technologies in educational processes and assessing its effectiveness in European universities. It is stated that the requirements of the European system standards influence the structure and methodology of teaching. Technological innovation, long a hallmark of academic research, may now be changing the very way that universities teach and students learn. The article focuses on the objectives of using ICT along with traditional methods.

Keywords: *information technologies, computer technologies, technological innovation, professional training.*

Problem statement. The introduction of modern information and communication technologies (ICT) in the educational process has the size and growth rate, reflecting the growing impact of computer technology on society. It is known today that the specialist who does not have advanced computer technology, has a low competitiveness on the labor market. Online degree programmes and distance learning have gained a firm foothold in universities around the world. What was once considered a niche channel for the delivery of educational content has rapidly become mainstream, creating wider access to education, new markets for content and expanded revenue opportunities for academic institutions.

In connection with this the problem of rational use of the fastest growing opportunities of computer technology becomes very urgent.

Summary of publications. Having analyzed the works on information and computer technologies in educational processes we can make the conclusion that many scientists, methodists pay attention to this question. Harizanov Kr., Pavlova N., Aliev S., Eminov D, Tsankov S. Voynohovska V. discuss the role of modern information technology education as the motivation of learners, they work out strategy for the effective implementation of information and communication technologies in education and science.

The purpose of the article is further analysis of the forms and methods of educational and research work in the universities of Western Europe, highlighting both traditional and innovative, primarily on the basis of means of information and computer technology (ICT) training methods.

Introduction. New information and communication technologies begin to occupy its rightful place in the education system, it is important that universities become the center of the profound changes affecting society as a whole. The ability of every person to have access to information and process integration was decisive not only in the sphere of production, but also in the educational sphere. Using the Internet gives access to the documents of international organizations, computer library

As telecommunications and information technology continues to play an increasingly important role in the daily and professional life of modern specialists, there is the urgent need to develop new concepts for the use of information and communication technologies in education, which will determine new approaches to evaluating the effectiveness of their application in this area.

While in previous years, the main measure of effectiveness of informatization of university education were quantitative data ICT usage (e.g. the number of requests to Internet resources), now more attention is paid to the role of ICT in the formation of modern educational results.

Technology has had –and will continue to have –a significant impact on higher education. Nearly two-thirds (63%) of survey respondents from both the public and private sectors say that technological innovation will have a major influence on teaching methodologies over the next five years. In fact, technology will become a core differentiator in attracting students and corporate partners. Higher education is responding to globalization. Respondents say that having an overseas presence will be the norm for the majority of universities over the coming years, and 54% of academic respondents say their institutions either already have foreign locations or plan to open them in the next three years. Distance education is also becoming increasingly global, with universities in the EU leveraging advanced technologies to put education within reach of many more individuals around the world [7].

The use of Internet technologies for distance education and the improvement of its efficiency, already widely used, is a promise for all countries of the world. This new technology should play a major role in higher education, at present they are already successfully applied in the framework of training, organized within the enterprise, as the main element of the educational potential that is distributed in society.

More informative trends in the development of information and telecommunication systems should include methods of transmission the information, data protection. Among the less illuminated areas in the development of information and telecommunication systems are personal mobile communications, telecommunication facilities and special electronics, digital communications on a fiber-optic communication lines, satellite communications and sustainability of information and telecommunication systems at external destabilizing factors.

In the opinion of teachers and developers from European universities, the special properties of the computers can be used for a variety of parameters directly in implementing quality assessment systems education. Here are possibilities of computers in terms of promoting introduction of quality assessment systems of education: a) visualisation. Visual representation programm; b) diagnostics. Checking possible mistakes; c) correcting and filling gaps; d) creation of hypothetical situations; e) motivation. Group activities; f) knowledge integration.

These features are widely used in the program of the European Graduate School (EuroPhD), seminars and tests are held regularly in real time to ensure the control of knowledge of graduate students from the different countries involved. Thus, speaking about the use of ICT tools, it should be noted that this process also contributes to the successful factors of the university efficiency, such as mobility and collaboration between universities, the realization of their educational resources in the program.

However, the development of new information technologies should not limit the role of the faculty professorial staff. Now, there appeared an important task not only to impart training skills to students, but also to teach them how to search and compare information, displaying a critical approach.

Technology is enabling multi-modal teaching, changing curricula and spawning rich forms of online research and collaboration. Nearly 60% of survey respondents say that professors will soon teach in more than one medium. For instance, classroom courses can be filmed with three cameras and a sound mixer. «The course goes online within 30 minutes,» says Mr Delaney. «Within 24 hours, students interested in reviewing a certain case or topic can click an online index that charts the content of the entire class and view the portion that interests them» [7].

Education Sector refers to the socio-cultural sphere, which imposes particular specifics on automation processes. In contrast to the production sector, the results of non-financial activities are not so obvious: manufactured product is almost difficult to quantify, the criteria for the effectiveness of educational activities do not have a clear and unambiguous definition.

The analysis of the existing programs shows that computerization has affected all sectors of human activity and, of course, the education sector, which resulted in a change of education system. Thus, a new form of education – distance education, appeared. While distance-education programmes continue to grow in number and to improve in quality, most survey participants see online courses as a supplement to face-to-face classes, and nearly two-thirds of respondents maintain that traditional degrees carry greater credibility than those earned online. Corporate participants hold this view most staunchly. Few participants (11%) say that online and inclass students are likely to take the same classes together and compete for top grades [7].

The changes were also in traditional forms of education: increasingly used informatization of educational process, Distance Learning (teleconferences, lectures and seminars in real-time), electronic books, digital libraries and other information resources.

Today using of electronic textbooks not only for distance education, but also to traditional forms of education becomes obvious, unlike paper books they have more evident and better impact on different types of memory. This led to the fact that not just software manufacturers, but also some teachers began to create electronic textbooks. However, current demand for software products is so high that it is worth considering whether it is necessary always to create a new electronic book, or better use the existing one, if it is made on a qualitative level. To answer this question, you must be able to assess the quality of existing e-books and predict the quality of e-books that are in the development stage [2].

At present the main aim of informatization of educational technology is improving student training by automated execution of such functions as:

- planning and forecasting;
- accounting, control analysis;
- coordination, regulation with the use of the information, technical, organizational, metrology, legal, linguistic, mathematical software.

Achieving this goal is also provided by a number of tasks on parametric, algorithmic and structural setting of technological support funds, which primarily include:

- enhancing management efficiency. Reduction of time is mainly due to processes such as collection, retrieval, pre-processing and transmission of information;
- reduction of student labor;
- increasing the degree of scientific validity of the decisions.

To improve the efficiency of education all software should provide group sessions on theoretical disciplines with managing individual development of students. Such programs can use the multimedia capabilities, if there are appropriate means such as simulators to ensure the acquisition and consolidation of skills as a part of hardware and software platforms.

Singling out the priority of educational informatics issues in improving the training of future specialists, it is important to pay attention to the organization of the participation of technological universities in the works on the mentioned program.

At the moment, ICT is not the only a tool that allows to dramatically improve learning process in specific disciplines, but will monitor the effectiveness of the educational process. The media can be successfully applied in the study of the technological processes, the humanities in the workshops, which made some research, etc. Especially effective is the usage of multimedia technology for creation a new generation of information and information systems, where you can find the relevant text, and high-quality illustrations, and audio and video clips.

To optimize the usage of new information technologies for assessing the effectiveness of educational process there are several ways of solution:

- orientation of public opinion on the mandatory usage of computers (as an element of quality education) in the teaching of certain subjects;

- to carry out classes the teacher should be given the most convenient computer. Note that for the teacher the performance of the processor and other technical characteristics of the computer are not so important. The teacher should not spend time on selection the configuration of the most suitable for his subject matter computer [6].

One of the most effective solutions widely used in universities in Europe is «whiteboard». On the computer screen (or by using projection installations) the material may be represented in the form of illustrations, excerpts of videos, audio recordings, the computer model of any process can be displayed. Information for projection on the big screen can be submitted in the following ways: static (text, table, graphic); presentation (text-graphic dynamic time-variable information with audio and video clips); animation. So, it is possible to divide the existing multimedia educational products into following topics: comprehensive encyclopedic products; game programs with cognitive abilities (the study of unknown worlds, such as a series of «living books»); programs, which actively use interactive interface (e.g. for language learning program, elements of virtual reality); mapping software, atlases; modeling program (mathematics, physics, medicine, chemistry, fitness equipment).

Static information is represented by Package Microsoft, programs Corel Draw, Adobe Photoshop and others. A presentation method for presenting information are a text-graphic dynamically variable in time information with audio and video carried out with the help of Microsoft programs – PowerPoint, Adobe Premiere. Animated mode is created with the use of programs Macromedia Flash, Corel PhotoPaint and others. Presenting the material in these ways facilitates the perception of information, its understanding and studying. Using these applications students can be demonstrated all the objects discussed at the lessons. In this way, a large number of information in the conditions of time-limited lecture or laboratory practices is presented. We pay special attention that the computer which is used as the electronic board must be a multimedia computer, as it makes no sense to play only the textual material on the lecture screen [4].

Computer testing (simulators, tests) is widely used to control and correct knowledge. For example, there are many free, partially paid or paid platforms like GOOGLE FORMS, PROPROFS, CLASSMARKER, on which you can create tests for evaluation knowledge - from selecting one or more correct answers, insert missing words to detailed answers to questions. The main advantages of computer-based testing over conventional testing are [4]:

- 1) time saving because you can check the knowledge of many students at a time;
- 2) for the students different obstacles in presentation the work itself are lost, such factors as writing, images and spelling mistakes. Especially it is important for international students;
- 3) objectivity survey – extraneous factors such as the effect of contrast, previous information about student progress, rate response are lost.

It should be noted, however, that the usual textbook was for a long time and will remain the main «weapon» of the student. Any text is much easier to learn in a regular book, and not on a computer screen. Electronic textbook complements the ordinary, and is particularly effective in cases when: provides almost instant feedback; helps to quickly find the necessary information; saves time when multiple calls to hypertext explanations; along with a brief text it shows, tells models, etc. This is where the opportunities and advantages of multimedia technology are evident.

With the rapid development of ICT it is necessary to ensure every teacher the opportunity of regular training with the use of new information technologies, in practice, to show the possibilities and disadvantages of electronic means. To improve the quality of student learning it is necessary to provide certain conditions such as improving logistics at laboratory work, updating and modernizing the guidelines using world heritage, new research achievements in the educational process, visibility usage and time management. Fulfillment

of the conditions provides a diverse and the most in-depth knowledge of the discipline reducing time and optimizing the learning process. During the organic combination of ICT in teaching and learning different kinds of activities, lectures, laboratory workshops and practical training greatly extend the usage of different kinds of tasks, making them dynamic, without spending time and control system assessment of students' knowledge, the relationship between teachers and students.

Conclusions. Higher education is significantly influenced by these changes. ICT will make education within reach for many people around the world, and will allow expanding the specialization in the methodology of the curriculum and training. Thus, it is necessary to create for teachers and students an environment which is based on user-friendly computer software, clear tool, and create a general atmosphere, aimed to use computers in the educational process.

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Abstract. Introduction. *The article deals with some aspects of application of computer technologies in educational processes. It is stated that the requirements of the European system standards influence the structure and methodology of teaching. The article focuses on the objectives of using ICT along with traditional methods.*

Purpose. *Technology has had a significant impact on higher education. Higher education is responding to globalization. Further analysis of the forms and methods of educational and research work in the universities of Western Europe, highlighting both traditional and innovative, primarily on the basis of means of information and computer technology (ICT) training methods.*

Methods. *The use of Internet technologies for distance education and the improvement of its efficiency is a promise for all countries of the world. New technologies are already successfully applied in the framework of training, organized within the enterprise, as the main element of the educational potential that is distributed in society. Special properties of the computers can be used for a variety of parameters directly in implementing quality assessment systems education. Technology is enabling multi-modal teaching, changing curricula and spawning rich forms of online research and collaboration. Education Sector refers to the socio-cultural sphere, which imposes particular specifics on automation processes.*

Results. Singling out the priority of educational informatics issues in improving the training of future specialists, it is important to pay attention to the organization of the participation of technological universities in the works on the mentioned program.

At the moment, ICT is not the only a tool that allows to dramatically improve learning process in specific disciplines, but will monitor the effectiveness of the educational process.

Originality. With the rapid development of ICT it is necessary to ensure every teacher the opportunity of regular training with the use of new information technologies, in practice, to show the possibilities and disadvantages of electronic means. To improve the quality of student learning it is necessary to provide certain conditions such as improving logistics at laboratory work, updating and modernizing the guidelines using world heritage, new research achievements in the educational process, visibility usage and time management. Fulfillment of the conditions provides a diverse and the most in-depth knowledge of the discipline reducing time and optimizing the learning process. During the organic combination of ICT in teaching and learning different kinds of activities, lectures, laboratory workshops and practical training greatly extend the usage of different kinds of tasks, making them dynamic, without spending time and control system assessment of students' knowledge, the relationship between teachers and students.

Conclusion. Higher education is significantly influenced by ICT. It will make education within reach for many people around the world, and will allow expanding the specialization in the methodology of the curriculum and training. Thus, it is necessary to create for teachers and students an environment which is based on user-friendly computer software, clear tool, and create a general atmosphere, aimed to use computers in the educational process.

Keywords: information technologies, computer technologies, technological innovation, professional training.

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ІНФОРМАЦІЙНІ І КОМП'ЮТЕРНІ ТЕХНОЛОГІЇ В ОЦІНЦІ ЕФЕКТИВНОСТІ ОСВІТНІХ ПРОЦЕСІВ В УНІВЕРСИТЕТАХ ЄС.

Анотація. У статті розглядаються деякі аспекти застосування комп'ютерних технологій в освітніх процесах для оцінки їх ефективності в європейських університетах. Стверджується, що вимоги європейських стандартів освіти впливають на структуру і методіку навчання. Темпи впровадження сучасних інформаційних і комунікаційних технологій (ІКТ) в навчальному процесі відображають зростаючий вплив комп'ютерних технологій на суспільство. Сьогодні відомо, що фахівець, який не володіє передовими комп'ютерними технологіями, має низьку конкурентоспроможність на ринку праці. Інтернет і дистанційне навчання набувають міцних позиції й в університетах по всьому світу. Те, що колись вважалось певним каналом для надання освітнього контенту, швидко стало основним, створюючи більш широкий доступ до освіти, нові ринки збуту для контенту і розширені можливості отримання доходу для наукових установ. В статті розглядаються можливості використання ІКТ з точки зору сприяння впровадження систем оцінки якості освіти. Досягнення цієї мети забезпечується низкою завдань з параметричного, алгоритмічного і структурного налаштування технологічних допоміжних засобів. Сьогодні ІКТ не є єдиним інструментом, який дозволяє значно поліпшити процес навчання з конкретних дисциплін, але досить успішно контролює ефективність навчального процесу, досліджує розвиток технологічних процесів тощо. У статті розглядаються цілі використання ІКТ поряд з традиційними методами.

Ключові слова: інформаційні технології, комп'ютерні технології, технологічні інновації, професійне навчання.

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