

USE OF INFORMATION TECHNOLOGIES AS A WAY OF IMPROVING THE METHODS OF DISCIPLINES LEARNING

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The essence of information technology (IT), the trends and after-effects of their application in the educational process are studied. A strategically important task is the preparation of highly professional staff, capable to develop new information technologies and effectively use them in their professional activities. Informatization of education is a key condition for training specialists. The article deals with the results of scientific researches in a field of IT application to the education of Western European countries. The state and trends of development of information technologies in Ukraine are highlighted.

Keywords: information technologies, methodology, education, strategy, improvement.

Problem statement. In education informatization opens up the access to the world information resources; reduces the dependence of teaching and learning from the location of participants of a process; speeds up the globalization; promotes the improvement of the forms and content of the educational process, enhancement of the efficiency of the material learning and the individualization of education, the integration of educational, research and production activities; greatly increases the amount of resources that students can use outside the classroom; contributes to increased motivation for learning and the development of creative thinking. Informatization of education is a key

condition for the training of specialists capable being working in brand new, increasingly automated, working conditions.

Analysis of the last achievements and publications. Many scholars have researched the problems of informatization of society and education: the basic terms of the conceptual apparatus of informatization of education were developed (V. Bykov, L. Nakonechna, etc.), information and communication technologies were studied (V. Ivanov, I. Robert, etc.), the application of modern information technologies in the educational process (A. Gurzhii, N. Zhuravska, V. Kovalchuk, etc.); teacher training on the use of information technologies in the edu-

cational process (I. Bogdanova, Ye. Polat, etc.); the possibilities of network technologies usage were investigated (L. Breskina, O. Lazarenkota, etc.).

Statement of the unsolved aspects of the problem that the article deals with: together with the positive features of informatization of education (increased role of knowledge, globalization consciousness, etc.), the feasibility to diversify the teaching methods is actively studied, which makes it possible to significantly increase the quality of education.

The aim of the study: to study the essence of information technology (IT) trends and their after-effects in the educational process; consider the results of scientific researches in a field of IT application to the education of Western European countries; highlight the state and trends of information technology development in Ukraine.

It should be noted that the main technologies of the 21st century worldwide are recognized to be the information and communication technologies based on telecommunication systems. To determine the place and the role of new technologies in the educational process one should understand the nature of a knowledge. This is a fundamentally different type of knowledge, its more dynamic and, at the same time, a new form of education, in which the boundary between scientific (research), educational, fundamental and applied knowledge disappears. The synthesis of humanities and natural sciences takes place in this situation. Its goal is not to memorize a large amount of material, but to be able quickly and easily navigate in it [5].

It should be noted, that the need for knowledge is one of the main human needs, it serves as a basis for the development of the individual centuries-long human experience. In different periods of human life the objects of his or her interest change, as well as the forms and methods of acquiring of a knowledge, but the need for knowledge as an inherent property of a man over the years gets its further development. Detailed dependence of the success of educational activity on motivation was researched by G. Klaus. He had found, that «aiming at learning and at its content has the most lasting impact on active assignment, the process ongoing and its success» [4]. On this basis, he highlighted the positive and negative motivation. Anyone who has a strong desire to learn will be taught without external coercion, receiving from his knowledge pleasure, showing perseverance, quickly mastering the necessary information, demonstrating intelligence, flexibility, imagination. At the same time, the results of the study (M. Lipkyn, N. Yakovleva) showed, that the combination of high levels of cognitive and competitive stimulates promotes good success in a high school, while the prevalence of aversive stimulates at a low competitive motive leads to low learning results [4]. Yu. Orlov concluded, that «the greatest impact on academic success provides a subconscious need combined with a high need for achievement» [4].

In the process of informatization of education they name the following aspects [5, p. 163-167]: methodological, which ensures compliance with the basic principles of the educational process to the current level of information technology by developing new educational standards; economic,

which depends on the participation of a country in the information industry; technical, within which there remains an unsolved problem of insufficient processing of methodological issues in the conditions of continuous creation and implementation of a large number of software and technical developments; technological, since the technological basis of the information society is telecommunication and information technologies that provide economic growth, create conditions for the free circulation of large amounts of information and knowledge in the society, and lead to significant socio-economic transformations; methodical: the main advantages of modern information technologies should become the main support of the educational process, and the role of independent work of the student significantly changes the structure and organization of the educational process, increases the efficiency and quality of learning, activates the motivation of cognitive activity.

Recently, much attention is being paid to distance education, which is based on the idea of moving from the concept of limited physical mobility of students from country to country to the concept of mobile ideas, knowledge and learning in order to share knowledge through the exchange of educational resources through the dissemination of communication channels. According to experts, the full entry of Ukraine into the world economic community as a developed country can be achieved only through a systematic approach to solving the problems of informatization [3].

Research has established, that the development of distance education in Europe began about ten years later than in the US, and this is mainly due to the activities of the so-called «open» Universities that get financial support from their governments [2, p. 30-34]. These universities provide numerous courses on use of telecommunications, radio and computer technology. Nowadays, in each European country the distance learning systems are interconnected. We emphasize, that in Spain this form of learning is actively developing by the National University of Distance (Universidad Nacional de Educación a Distancia, UNED). Today, distance education in France is governed by three centers: 1. Corporate web-site Center for Distance Education in the University of Franche-Comté (Centre de tele-enseignement de l'Université de Franche-Comte); 2. Corporate web-site of Open Distance Education Center of the University of Burgundy (Centre de formation ouverte et a distance de l'universite de Bourgogne); 3. Corporate web-site of the French Ministry of Education (Centre National d'enseignement a distance (CNED). In general, European systems of distance learning cover more than 30 countries, including developing ones [1, p. 39-42].

The study found, that the deputy director of education strategy in scientific research, formation and development activities Gilbert Peskatori is responsible for the purchase by ENFA Toulouse candidates (France) of CD-Notebooks «Verhos» on didactics of professionally oriented disciplines (distance education). Note, that the methodical manual «Support for continuing education» (Appui a la prise de fonction Formation continue – c'est aussi l'affaire de l'EPL) ENFA Toulouse (France) includes obligatory online training [1, p. 39-42]. We

emphasize, that the professional environment of training teachers for higher agricultural education is in clarifying, the provision of advice, coordination of the conditions for interaction of a teacher with professional environment of pupils/students and others.

Different authors put different meanings in the notion of «informatization of education». B. Bykov defines it as: «Informatization of education is a set of interrelated organizational, legal, social, economic, educational and methodical, scientific, technical, production and management processes aimed to meet the information needs of computer and telecommunication (other needs relating to the introduction of methods and means of information and communication technologies (ICT)) of the participants in the educational process, as well as those who manage and provide this process (including carrying out its scientific and methodological support and development)» [3]. «This is the process of providing the education, according to I. Robert [3] – with the methodology and practice of development and optimal use of modern ICT, which are oriented at implementation of psycho-pedagogical training purposes of education». We support the thought of D. Shvets [4] who emphasizes the bringing in of new sources of information, the use of new means of managing it, changing teaching methods and controlling knowledge based on the full use of computer, communication and multimedia technology.

With the recognition of the term «e-learning» the approach to the information technology in education changes. Nowadays, education in all its forms (correspondence, evening, daytime) is carried out not only in the classroom, but also in the electronic educational environment, providing both the full engagement of students in the learning process, and the reliable control over the level of knowledge acquisition. The need for this has increased especially with the transition to the credit-module system proclaimed in the Bologna Declaration. One of the trends of information technology implementation in education strongly emphasize the representatives of Microsoft: learning should be put in the first place, and then it is advisable to think about the instruments and equipment [4].

It should be noted, that IUFM (France) organises scientific seminars and colloquia to enhance the professional competence of teachers involving third parties [1, p. 39-42]. It is worth saying, that the Institute workers participated in the Fourth International Conference of Quality Management in Education and Training Systems – «Cimquese». Note, that the participants of the congress, after the debate, concluded that higher education worldwide is developing, and it is desirable that this thesis also refer to the training functions of education. We emphasize that in higher education more and more role is played by «as development handles» the practical skills, based on researches and innovations. The Congress invited participants to timely consider the role of higher education and research in building a skill-based society, and set up some mechanisms to achieve such a goal. To do this, they need to answer the following question: How can higher education and research help to take society's challenge to presidency skills? We emphasize, that the participants of the congress are

teachers, researchers, educators, politicians, social workers, heads of educational institutions (as experts in training), who were invited to present the results of their research and ideas on the following topics: higher education between efficiency and equity; adaptation of student achievements to the characteristics of a society's abilities; globalization and international mobility – ways to manage higher education; fundamental and applied research; human resources management; relation with other constituent systems of education [1, p. 39-42].

Analysis of the results of numerous studies shows that current global trends of informatization of education are [4]:

- a combination of the classical principles of fundamental training with effective modern innovative educational models; the introduction of new tools and methods of training aimed at the use of information technology;

- creation of a system of advanced education;

- modification of the content of the teacher's work, which means a high level of appropriate training, and a creation of a high-level information infrastructure in higher educational institutions with a developed information and computer training environment;

- enlargement of mobile technologies: the speed of technology mobility is impressive; theoretically they can already provide training for everyone and at any convenient time – so now it's all about their effective implementation;

- changing the paradigm of education from «education for life» to «education throughout life»;

- axiological (value) approach, in particular – to evaluation;

- a creative approach to learning: new knowledge should be created together, and not simply «transferred» from teachers to students;

- a global approach to learning – common interests, curiosity and the desire to learn contribute to expanding the range of learners;

- global mobility: the boundaries must be open, so that people from the very early age can feel themselves as inhabitants of not a small neighborhood, even in a large city, – but the entire planet. So that on the principle of cognitive modesty of Socrates, the line of touch of the area of knowledge with the region of ignorance is constantly growing; empowerment causes desire and increases ability;

- education without borders – the creation of a single educational space: technology, creativity and a sense of global world must erase geographical barriers.

According to Microsoft, there are four key conditions that will enable students to use their own devices in the classroom: providing students with access to the Internet; help in using devices in the network; secure information environment; ensuring coordinated work of the group. The advantages of such an approach are in avoiding not only the devices purchase costs, but also the problems associated with their service. The analysis shows, that the main principles of the development of informatization of education in Ukraine should be the formation and implementation of an informational educational environment in the system of higher and postgraduate education as a single computer tools system, software, training databases, elec-

tronic educational and methodological resources, virtual educational environments and other elements that implement information processes [4].

Conclusions and perspectives. Therefore, our studies have shown that:

– the current trend in the development of education – the transition from the conservative educational system to the advanced one – it should be based on the advance formation of the information space of education and the widespread use of information technology, the creation of a powerful information infrastructure in high schools with a developed information and computer learning environment; introduction of innovative methods, means and forms of professional training of future specialists into higher education;

– with the change of the paradigm of education from «education for life» to «education throughout life», it is expedient to improve not only the content of education, but also teaching methods, in agrarian disciplines particularly, didactic approaches;

– interactivity and multimedia visibility contribute to a better presentation, and, accordingly, a better assimilation of information;

– it is especially advisable to use information technology to study processes and phenomena that are not subject to visual research.

Priority areas for the development of the problem researched is the search for ways to improve the use of information technology in education based on competence approach.

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ВИКОРИСТАННЯ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ ЯК ШЛЯХ ДО УДОСКОНАЛЕННЯ МЕТОДИКИ НАВЧАННЯ ДИСЦИПЛІН

Анотація

Досліджено сутність інформаційних технологій (ІТ), тенденції і наслідки їх застосування в освітньому процесі. Стратегічно важливим завданням є підготовка високопрофесійних кадрів, здатних розвивати нові інформаційні технології та ефективно використовувати їх у професійній діяльності. Інформатизація освіти є ключовою умовою підготовки фахівців. У статті розглянуто результати наукових досліджень у галузі застосування ІТ в освіті країн Західної Європи. Висвітлено стан і тенденції розвитку інформаційних технологій в Україні.

Ключові слова: інформаційні технології, методика, освіта, стратегія, удосконалення.

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ИСПОЛЬЗОВАНИЕ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ КАК СПОСОБ СОВЕРШЕНСТВОВАНИЯ МЕТОДИКИ ОБУЧЕНИЯ ДИСЦИПЛИНАМ

Аннотация

Исследована сущность информационных технологий (ИТ), тенденции и последствия их применения в образовательном процессе. Стратегически важной задачей является подготовка высокопрофессиональных кадров, их способных развивать новые информационные технологии и эффективно использовать в профессиональной деятельности. Информатизация образования является ключевым условием подготовки специалистов. В статье рассмотрены результаты научных исследований в области применения ИТ в образовании стран Западной Европы. Отражено состояние и тенденции развития информационных технологий в Украине.

Ключевые слова: информационные технологии, методика, образование, стратегия, совершенствование.