MODERN TRENDS IN EDUCATION: ISSUES OF E-TEACHING AND E-LEARNING

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The present situation in education one can characterize as a rapid growth and expansion of e-teaching and e-learning. However, in many universities this is just a linear transfer of "classroom" model of teaching and learning to the web media. Often e-courses delivered are nothing more than lectures notes and PowerPoint files uploaded to the net, the web is simply being used as a medium for delivery of instructions created within another framework. While classroom teaching and management strategies are well documented, the online learning environment presents different challenges and benefits. Teaching in an online environment calls for different pedagogical approaches and a special set of teaching skills. In Belarus, we are short of appropriate both methodic and practical recommendations on how to develop and how to conduct on-line courses. To improve the situation and change it properly it is necessary to understand and analyze the main changes taking place in the sphere of education and educational services within last 15–20 years. My talk is an attempt to overview current world literature on contemporary pedagogical issues connected with e-teaching and e-learning.

Key words: paradigms of education, nonlinear thinking, information technologies of education, e-courses, e-teaching and e-learning, m-learning.

Evolutionary synergetic and ecological paradigms of education. The main feature of the modern world is its diversity and its changeability, which becomes apparent not only in scientific and technological progress, but also in the way of life of the masses. A generation is required who is capable of managing new information technologies, and a new open relationship in the whole world. The possibility of a nation developing as a stable society and preventing global crises and other conflicts is directly connected with the educational level of that society. For adequate perception of a contemporary scientific picture of the world and stable development, a society needs the innovations in education, one of the main directions of human activities. Systems existing in nature essentially differ from those created by human being. Nature is capable to be resistant to exposure to outer influences, to adapt to changeable conditions, to improve. It is obvious that we need to adopt experience accumulated by nature and use it in human activity. Here Synergetics oriented to search for some universal laws of evolution and self-organization of complex systems relieves. Namely, this theory can serve as a source for new world-outlook and philosophy [1]. In the modern situation of society, there is the formation of a new view of the natural environment. Self-organization processes of a new informational society are developing. Synergetics is a new scientific paradigm generating a revolution that is more subtle and larger than the scientific revolution that took place at the turn of the 20th century and started with the theory of relativity and quantum mechanics. Nowadays in the former Soviet republics we observe a transition

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to a new evolutionary-synergetic educational paradigm and this is entirely adequate the changes in science, culture, interrelations between man and nature, and in a modern world as a whole.

Ecological knowledge plays a special part in forming scientific systems of notions, which combines knowledge about the biosphere on the one hand, and knowledge about social processes on the other hand. It is not surprising that ecological knowledge is getting special importance in solving problems that concern the interactions of man and nature, the overcoming of the ecological crisis, and hence it is becoming an important factor in forming new worldview foundations of science. The new vision is based on the idea of an interconnection and harmonious relationships between people, man and nature, which constitute a single whole. Within such an approach we can trace the establishment of a new vision of man as an organic part of nature, not as its lord; science develops the ideas of the priority of cooperation over competition [2]. The principles of openness and self-regulation of complicated systems, developed in Synergetics and introduced as an important principle into the modern scientific picture of the world, have lead to the same philosophical ideas and worldviews.

Nonlinearity. Nonlinear thinking. Nonlinear educational technologies. We live in an age of global problems which are problems concerning the survival of humanity. Producing and implementing strategies for dealing with the global problematique is a collective endeavor that requires new ways of thinking and new worldviews. Computer, informational and telecommunication technologies all influence the formation of a new style of thinking. They form a new system of culture and a new system of moral and ethical values. Synergetics can serve as source for a new world-outlook and philosophy; it is based on the idea of the non-linearity of development and on a deep interaction of chaos and order. One of the main world outlooks of Synergetics is nonlinearity of thinking. Nonlinearity of thinking is a readiness to emergence of a new, to a choice among alternatives; it is also the task of making decisions/choices under conditions of uncertainty. Nonlinearity should become a main conceptual core of a new educational paradigm. The main task of a new education system is to form a nonlinear thinking. New information technologies are not able, in full measure, to open their training potential in the traditional education system in which the didactic linear technology of ready linear knowledge transfer still dominates. The combination of linear and non-linear training technology may essentially facilitate the achievement of the study process aims.

E-teaching and e-learning. Modern trends in education such as e-teaching and e-learning adequately correspond to new educational paradigm. They realize the tasks of the study process under gigantic flows of information and the world changeability. To embody the nonlinear model of training is possible by using such nonlinear technologies as Internet and World Wide Web. In this case, the tools of cognition are computer, nets, different software, computer models etc. Computer, information and telecommunication technologies influence/stimulate the formation of a new style of thinking, nonlinear thinking. Web-based instruction is not merely an extension of the traditional classroom. It requires a different approach to the educational process and can deliver a different level of educational results. The use of Web-based teaching technology is not merely a technological extension of using computers in the classroom. The task of educators does not mean translating the material already assembled for various courses into the appropriate format for electronic delivery – say, over the World-Wide Web. It is mistakenly to consider the Web as a way a student gain access to material. Use of the Web should have certain pedagogical implications for the nature of the material. This is an entirely new type of pedagogy. A look into the e-learning use in the educational institutions reveals three typical manners: as integrated in the classroom teaching that works as a supplement to the face-to-face-teaching; as a "mixed mode" approach to complement face-to-face teaching (blended e-learning); as an independent mode for teaching and learning as a replacement for face-to-face-teaching. These different ways of using

the Web are an expression of new models of learning and teaching, indicating the emergence of a paradigm shift from teacher-centered to student-centered learning, transmission of old knowledge to the construction of new knowledge, in fact emergence of new ecological educational paradigm (Synergetic evolutionary educational paradigm) we were talking above. The term "e-learning" implies a new educational technology based on well-designed computer-based courseware that allows students to teach themselves, in some sense e-learning means self-teaching. E-teaching should not refer to the automation of live teaching, as it does. Instead, it should mean the creation and deployment of computer-based educational tools that deliver all the elements of effective teaching: customized information, assessment, guidance, and examples, independent of their creator.

On-line courses and open source software. Online courses involve many components: technical architecture, instructional design, graphic design, intellectual property and copyright clearance, and subject-matter expertise. In the early days of online courses just faculty-zealots developed online courses and they believed that information technology could transform learning, such faculties were able to master the required skills (Java, HTML, graphics packages etc.), and they used whatever available resources. Today, the legacy of these early courses is a quantity of different applications, approaches, and instructional designs scattered across the university. In many sources in e-teaching and e-learning it is pointed out that developing and delivering effective online courses requires pedagogy and technology expertise. Online instruction is more than a series of readings posted to a Web site; it requires deliberate instructional design that hinges on linking learning objectives to specific learning activities and measurable outcomes. A more effective model is to pair a faculty member with an instructional designer so that each brings unique skills to the course-creation process. Technology is another significant responsibility when developing and delivering an online course. There are many other problems, which should be solved by universities. Recently open source learning environments are becoming widely adopted by educational institutions. In the case of free software born out of an academic scenario the concept is often based on the particular high-level educational theory favored by the architect, i. e. both prescriptive and proscriptive. In pedagogic literature, they argue that it is common for a university or college to either run many different products to suit the needs of all departments or to force departments to adopt teaching methods that suit a single product. According to many pedagogical sources, a consideration of open source options should be written into an institution's IT Strategy. Adopting open source software and virtual learning environments (VLE) can offer real benefits, but there are of course many issues to consider. Starting small pilot projects and engaging with the open source community will be essential first steps.

New trend in e-learning: m-learning. Nowadays mobile information and communication technologies are important enablers of the new social structure. We are experiencing the first generation of truly portable information and communications technologies with the relatively recent advent of small, portable mobile devices that provide telephone, Internet, and data storage and management in products such as: i-Mate, O2, Palm, HP, and Bluetooth that combine mobile telephony, removable memory chips, diaries, email, Web, basic word processing and spreadsheets, and data input, storage, and transfer. The communication and data transfer possibilities created by mobile technologies can significantly reduce dependence on fixed locations for work and study, and thus have the potential to revolutionize the way we work and learn. A mobile connected society creates new training delivery challenges. This type of delivery is called m-learning. While m-learning can be thought as a sub-set of e-learning (which is web-based delivery of content and learning management), the emerging potential of mobile technologies tends to indicate that m-learning, while mostly situated within the e-learning framework, also has links directly to the "just enough, just in time, just for me" model of flexible learning, and therefore just one of a suite of options that can be adapted to suit individual learning needs.

At Belarus State Pedagogical University we train future teachers. I think that it is time now to start teaching new type courses for future teachers and consider new tasks such as, e. g., e-pedagogy, e-teaching and e-learning in which it is necessary to cover such notions as e-learning management, open source software, educational impact of visualization, web-enhanced courses, 'presenting study materials online', adapting testing, mobile technologies in education etc. We need to actively introduce information technologies into study process of our university. I think that open source learning environment is a first step for improving the situation. Moreover, I think it is necessary to create for our teachers an e-pedagogy environment.

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ИСПОЛЬЗОВАНИЕ ТЕХНОЛОГИЙ ДИСТАНЦИОННОГО ОБУЧЕНИЯ В ПРОЦЕССЕ ПЕРЕПОДГОТОВКИ ПЕДАГОГИЧЕСКИХ КАДРОВ

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Статья посвящена проблемам внедрения в учебный процесс переподготовки педагогических кадров технологий дистанционного обучения. Определяются условия и перспективы развития дистанционного обучения, характеризуется специфика применения его отдельных технологий, приводится примерная структура учебно-методического комплекса дистанционного обучения. Отдается предпочтение комбинированной форме обучения как наиболее соответствующей реалиям переподготовки педагогических кадров.

К л ю ч е в ы е с л о в а: дистанционное обучение, технологии дистанционного обучения, переподготовка, учебно-методический комплекс.