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ELEMENTS AND FORMATION OF THE COMPUTERIZED E-LEARNING ENVIRONMENT

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Abstract. *The article is devoted to forming contemporary learning environment, based on the computing means and tools, and defining core components of such environment. Innovations in educational technology have led to various learning environments and the educational uses of computers are rapidly increasing. Higher education institutions provide more computer-based courses to complement and in some cases replace traditional classroom learning. Understanding the high potential of computers in learning environment, scholars insist on creating courses for the Web. This paper examines and analyzes computerized learning environments in terms of their elements, design challenges, and their prospective. Any computerized or e-learning environment should contain visual an audio aids in the form of systematized multimedia, Internet and Intranet connection, distant-learning and interactive learning tools.*

In education sector, learning environment plays a vital role in meeting the goals of a particular program of study. These new environments focus on learning over teaching, becoming a powerful tool in transformation of teacher-centered systems into learner-centered systems. These systems have been influenced by new altered teaching and learning resources and become more wide and inclusive. The effective use of cloud computing as basic platform for the formation of computerized learning environment has been proved in educational sector.

Keywords: *learning environment, computerized environment, e-learning, cloud computing, distant learning.*

The rapid development of information technologies is one of the most important changes, without which the modern knowledge society cannot be imagined. Educational strategy to develop a safe and competitive knowledge-based society leads to new requirements to education. The process of learning is aimed at helping a student to understand the contemporary world, to become an independent, responsible learner, and to develop their own strategies. Educational attainments cannot guarantee permanent individual self-activity, because one needs to constantly improve their knowledge.

Development of information technologies state new requirements for most of the occupations, which leads to shifting the focus of higher education attention. Qualification is becoming an important competitive factor for efficient work. Employers are no longer satisfied with an employee with all the necessary qualifications, they need an employee to constantly keep up with changing knowledge patterns, competencies and seek new qualifications necessary for the professional career and meaningful life, and meet the altering needs.

Changing public needs, new labor market demand, transformed teaching and learning methods, measure changes in the role of the teacher. E-learning or studying in the computerized learning environment not only becomes the alternative to the traditional teaching, but also starts to prevail in the educational sphere. Therefore, computers application and e-learning in higher education

become an important research problem. This article *is aimed at* analyzing the constituent elements of computerized and e-learning environment and teacher's role in this environment.

Scholars believe that technology can deeply influence learning, because it provides rich experience to the learner. In order to use this experience at study and work, pedagogues and methodists think of computerized learning environments, in which learners can not only receive information from the tutor, get and make learning tasks, but also attain opportunities to explore and interact.

Computerized learning environments are systems that provide rich databases, tools, and resources to support learning and information seeking and retrieval, as well as individual decision making. These environments can also be called online learning environments which include using the Web to supplement face-to-face instruction, using the Web in a mixed mode with face-to-face instruction, or e-learning, using Web-based instruction instead of face-to-face instruction (Mishra) [1]. Other labels are open learning environments (Hannafin, Land, & Oliver), computer-supported learning systems (Janicki, Schell, & Weinroth), constructivist learning environments (Wilson), virtual learning environments (Edelson, Pea, & Gomez) [1] etc.

The development of computerized environments was strongly influences by the development of computer technologies. The emergence of World Wide Web led to a new stage in delivering and processing knowledge, because WWW provides open systems with multiple access not only to getting, but also to providing and editing information stored online. The Web widened information systems to an unlimited number of documents and resources for learners, which can be used at different places at the same time (synchronous) and at different times (asynchronous). Learners can now achieve goals separately or in groups, at the comfortable place, working in their own pace. As a result, pedagogical science created a new concept combining learners and surrounding environment, in which they act, - a learning environment. These new environments focus on learning over teaching, becoming a powerful tool in transformation of teacher-centered systems into learner-centered systems. These systems have been influenced by new altered teaching and learning resources and become more wide and inclusive. This new vision of learning environments adopts new concepts such as interaction and cooperation between learners, facilitation, support, scaffolding, guidance, delivery systems, immediate feedback, electronic portfolio, and the use of a variety of tools and information resources to achieve goals and solve problems (Hannafin & Land, Papert) [1]. In these new systems it is also very important that students understand what information is needed, how to select and transmit a new type of information as a certain intellectual product.

Various information computing technologies usage standards, programs, and strategies, such as the Educational Information and Communication Technologies Strategy for Teachers, is changed and developed. Computer

literacy becomes a standard of education in the era of information and communication technologies.

E-learning environment is fast-developing because it can be supplemented with new elements. The most commonly elements are software, Internet, Intranet-mailing, distant learning systems etc. Information technology is technology branch, dealing with expertise relevant information, its processing and application; hardware, software, built-in software and all the software processing procedures related to its development and usage. The Internet is an interconnected compound network covering local, regional and national sectors. Intranet is an internal, specific organization's network. Email is electronic mail, fast transmitting and receiving information. Under the notion of computer networks one should understand computers, connective cables or other equipment, and means of transmitting information. Distant or remote learning tools are the way, in which a program gives participants an opportunity to learn at the convenient time, at the convenient location and at the acceptable speed for their purpose by means of an individually designed learning materials and information technology-based communication tools.

Most of the computerized learning systems (except for independent e-learning systems) consider a consultant or a tutor to be an essential element of them. The rapid growth of information technologies and integration of them into society and especially education changed a teacher concept generally. A teacher now gets the function of a moderator who controls and maintains some learning processes, gives advice or help when necessary, but mostly fulfills the function of directing students' actions. In programmed computerized training and learning the training mode is obtained when the leaflets, cards, video on the computer, textbooks and e-books provide instructional information, questions which need to be answered, the correct answers and also additional information. At the e-learning course you can learn at your own pace. This approach focuses on the subject and obtaining new skills, not on the achieving learning results. The basis for computerized learning from the point of the material is hypertext, in which elements of information (computer screen pages) are not arranged sequentially but according to some system, chosen by the author and showing all the possible transitions). It can also contain multimedia technologies (various media such as graphics, sounds, animations, photos, and images. They all together create an open computerized learning environment, which is aimed at teaching the individual to think and develop personal understanding of the sphere, create their own ideas, generate and experiment. An essential part of the computerized learning environment is the ability to model or simulate different working or learning processes without actually fulfilling them. Web-based or programmed artificial environment allows students to simulate reality in line with cooperation. Simulation is a method of teaching through interesting and creative modeling with the help of computer programs.

Any computerized or e-learning environment should contain visual an audio aids in the form of systematized multimedia. Multimedia contains different

forms of conveying information, comprising information and all the means of its delivery with the associated hardware. Media includes text, sound, image, video and interactive information management. It can be easily transferred or demonstrated on all the modern devices. Wireless connection contributed much to the development of the e-learning environment, because it makes Internet connectivity available in different places outside the classroom.

Special attention in the modern educational environments should be paid to interactive training tools, which are tools that can be managed with the help of assistive tools. The most commonly used interactive tool is a whiteboard, which operates using a specialized interactive teaching/ learning means and specially created software.

The new step in the development of computerized learning environment is virtual teaching/ learning environment, in which the computer networks and other information and communication technology-based systems provides learning materials, communication and collaboration online, and creation of different learning scenarios and methodologies. In this environment a whole education process is fully performed: the whole course or the content of the whole module, discussions (discussion forums, chat or e-mail), practical exercises, group work, computerized testing of the acquired knowledge and skills, automatic evaluation during the course, etc. Virtual learning environment should be based technically on some electronica platforms. Currently, one of the most popular virtual learning environments is formed on the "Moodle" platform, though it is gradually substituted by cloud-based learning environments.

One of the technologies that would enable an environment with the presence of reliable and scalable educational applications and tools is called cloud computing and it is aimed at providing a qualitative and wide IT platform and infrastructure. Cloud computing infrastructure and services can contribute to the existing learning environment of an educational system. Cloud computing is an Internet based technology which provides computational resources via computer network and offers scalable, flexible and on-demand services to the end users by centralizing the storage and network bandwidth besides the memory processing [3]. Cloud-based learning environment has lower number of technological limitations; it allows creating and sharing virtual learning resources much easier. The services and storages of cloud computing can be provided over the Internet. The users would not need to install the software in their own computer, because they just need the

Internet to use the applications which are hosted in the cloud. Learners can easily communicate with the applications throughout the Internet. Other important characteristics of cloud computing learning environment are as follows:

1. The user can access data and applications via browser anywhere and at the convenient time.
2. Cloud supports more efficient resources utilization.

3. Maintenance of the applications in the cloud is much easier.
4. Cloud is scalable.
5. Monitoring and assessment of learners' performance is an easier process.
6. The implementation of the cloud requires less IT skills, both from a teacher and from a student.
7. Cloud's security can be better supplied than the security of traditional educational systems.

There are also a number of websites which are available to the teachers and can become an important part of the computerized e-learning environment. These websites contain methodological materials, professional forums, various links, files, blogs, groups, etc.

In summary it can be said that e-learning cannot stop and have constant non-changeable items. It must gradually include new methods, techniques, and approaches, which form an e-learning system, which is aimed at creating an attractive environment for a learner, relationships between him and a teacher (tutor), enabling quick and high-quality teaching/ learning process.

Forming elements of the computerized learning environments are closely interconnected. All of the elements complement to each other. As technology is developing fast, there will be new elements, which will be added to e-learning environment, not excluding the presence of the traditional elements. It is also necessary to enable psychological competence of a teacher and a learner, and support meaningful communication in the process of learning of the material. In e-learning environment teachers are becoming consultant tutors, who share their experience and provide methodological support, correct learners, and seek for feedback. In these new systems it is also very important that students understand the ways of searching, selecting, and transmitting new types of information as a certain intellectual product.

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SEMIOLOGICAL APPROACH TO THE TRAINING OF FUTURE TEACHERS OF MUSIC AND CHOREOGRAPHY

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Abstract. *The article defines the essence and the main features of the semiological approach in pedagogy of art. Two tiers of semiosis in art education were identified: a) tier of the verbal language means and b) tier of symbolic means of the studied art. The main conditions of semiological approach realization in the process of music and choreography teachers training were established, in particular: a) the adoption of the artistic signs typological difference principles, b) the awareness of the special qualities of their form (semi-transparency, emotional connotation etc.). The article proves the importance and reasonability for future music and choreography teachers to be acquainted with semiological approach during their higher pedagogical education in order to implement it in their teaching activity.*

Keywords*: semiotics, sign, semiological approach, language arts, pedagogy of art, music, choreography.*

The conditions and ways of human being are rapidly changing nowadays and they influence the education and pedagogical science greatly. That is why searching for new approaches, methods and forms of teaching becomes a challenge. This tendency shows itself vividly in the field of pedagogical education, which is the most capable to apprehend of new scientific ideas creatively.

It is extremely important for the contemporary art teacher to be aware of the methodology of the modern humanities, to assimilate their approaches in the study and explanation of art. Among the new approaches, developed in the second half of the twentieth century, we should mention such as probabilistic