THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN PROVIDING INTERDISCIPLINARY INTEGRATION IN THE EDUCATIONAL PROCESS

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Abstract
This article talks about the role of information and communication technologies in providing interdisciplinary integration in the educational process.

Keywords: pedagogy, integration, information-communication, technology, education, methodology, Internet, multimedia.

An important feature of the current stage of the socio-economic development of society is the formation of a special area of production, characterized not only by the development of the material base, but also by a system of specific technologies, which are usually called information or information and communication technologies.

In the next decade, thanks to the revolution in the field of digital communication system, the merging of all means of communication and broadcasting based on digital representation and compatible protocols, the spread of digital presentation tools and the compression of multimedia information, further global changes will occur in all spheres of human life.

Therefore, today there is an urgent need for practical and theoretical understanding of these processes by pedagogical science, which, unfortunately, lags behind the pace of development of the latest technologies.

Informatization of the sphere of education should be ahead of the informatization of other areas of social activity, since it is here that social, psychological, and general cultural prerequisites for the informatization of the whole society begin to form. In the context of rapid scientific and technological progress, the general desire for integration in all spheres of life, in the context of globalization and constant changes in the social and economic spheres of life, knowledge becomes obsolete faster and faster.

In such conditions, when a person is forced to study all his life, the main goal of the education system is to teach him how to learn.

Unfortunately, until now, the impact of informatization on changing the goals and content of higher education is felt in educational institutions rather indirectly.

The main reasons for this are not so much the lack of a technical base of higher education institutions and economic costs, but the insufficient conceptual development of the theoretical foundations for the use of information and communication technologies (ICT) in the didactic process, in other words, the methodological difficulties associated with the development of standards for e-learning tools, the development new teaching methods and technologies, the basic principles of training (both technical and psychological) of teaching staff, etc.

It is quite obvious that this insufficient conceptual development of the theoretical foundations increasingly comes into conflict with the objective needs of practice, which requires setting in motion and realizing the educational potential of information technologies.

Thus, the relevance of the study is determined by the fact that this study has scientific significance associated with the disclosure of the theoretical foundations of learning using information and communication technologies and the Internet in particular, and applied value based on the development of a methodological system of learning using information and communication technologies, and also social significance, since its results allow solving certain socio-practical problems.

The degree of development of the problem. At present, a general theoretical foundation for training personnel in the framework of higher professional education has been created in domestic pedagogical science, which is presented in the works of such scientists as: Y.K.Babansky, P.Y.Galperin, B.S.Gershunsky, A.N.Leontiev, V.A.Slastenin, N.F.Talyzina and others.

There are studies in the field of education as a developing system and as a factor in the development of the individual, which are reflected in the works of B.G.Anan'eva, A.G.Asmolova, B.N.Bim-Bada, V.M.Lomova, A.B.Petrovsky, S.L.Rubinstein and others.

General patterns of personality development in the educational process are considered in the works of O.A.Abdulina, S.I.Arkhangelsky, V.V.Serikov and others.

Research in the field of creative activity is presented in the works of A.V. Brushlinsky, A.A. Verbitsky, L.S. Vygotsky, A.N. Leontiev, A.V. Shadrikova and others.

Research in the field of pedagogical integration is considered in the works of N.S.Antonov, I.G.Baturin, M.N.Skatkin, V.N.Fedorov, V.T.Fomenko, N.K.Chapaev others.

The study was aimed at overcoming the following significant contradictions:

- between the traditional system of teacher training and the need to improve the efficiency of using e-learning, information and communication technologies and Internet resources;

- between the potential of information and communication technologies and the insufficient integration of these technologies into the professional training of future teachers of a foreign language;

- between modern requirements for the development and use of Web resources and the lack of theoretical and technological support for these resources in real teaching practice when studying.

- between the social order of society for highly qualified teachers who use information technology in their future professional activities, and the insufficient formation of infocommunication competencies among future teachers;

Much of the reforms have been observed in the world over the period of time which has been experiencing substantial socio-cultural transitions and economic restructuring due to information technology and globalization (Mehboob et al., 2012). These changes increased concern for countries not only to be more adaptive to the changes but also design and develop innovative tools, equipment, processes, systems, structures, policies, and resources to remain compatible with the changing world. It also viewed that educational systems around the world are under increasing pressure to use ICT (Yuen et al., 2008).With the fast development of science and technology in the era of globalization, higher education play an essential role in reflecting learning environments and enhances lifelong learning processes. In this regard, ICT can create a powerful learning environment that transforms the teaching-learning process in which students deal with knowledge in an active, self-directed and constructive way (Volman & Van Eck, 2001).

The effective integration of ICT in the curricula with the intent of positively influencing teaching and learning has been in a state of development over the past 20 years (Dockstader, 1999).This can be realized through changing the way people access, gather, analyze, present, transmit, and simulate information. Technology should be used as a tool to support educational objectives such as skills for searching and assessing information, cooperation, communication, and problem solving which are important for the preparation of children for the knowledge society (Drent & Meelissen, 2008; Voogt, 2003). Learning methods using ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student-centered settings, and by enabling learning to be related to context and practice (Barron, 1998). Teachers generate meaningful learning experiences for their students using ICT to the flexibility of content and delivery.

In addition, ICT can enhance teaching and learning through its dynamic and interactive approach which provides real opportunities for individualized instruction. In fact, innovative use of ICT can facilitate student-centered learning (Drent, 2005). It has also the potential to accelerate, enrich skills, motivate, and engage students in learning, strengthens teaching as well as provides opportunities for connection between the school and the world (Davis & Tearle, 1999). Hence, every teacher should use technologies to enhance students learning so that it can encourage thinking, decision-making, problem-solving, and reasoning (Grabe & Grabe, 2001). The use of ICT as a tool of everyday life enhances the quality of students learning. Along with a shift of curricula from content-centered to competence-based, the mode of curricula delivery has now shifted from teacher-centered to student-centered supported with ICT (Sharma et al., 2011).

Nowadays, ICT is not the only option but also an undeniable necessity because it is considered as an important step in changing educational system (Aqhakhani, 2009). ICT provides different opportunities, which are now creating competitive edges for themselves through the choices they are offering students. Law et al. (2008) also believed that the acquisition of ICT skills includes the ability to become lifelong learners within the context of collaborative inquiry and the ability to work and learn from experts and colleagues in a connected global community. ICT has radically changed the traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for teachers and students (Webb & Cox, 2004). Unless other simultaneous innovations have been brought in pedagogy, curriculum and assessment, the time and effort expended on implementing these devices produce few improvements in educational outcomes (Cross & Adam, 2007). Thus, ICT necessarily can improve student learning outcomes if it is integrated meaningfully with the education system (Herzig, 2004; Lim & Ching, 2004; Wang, 2001).

One of the most vital contributions of ICT in the field of education is easy access to Learning. The application of ICT in education creates a new kind of learning in such a way that learning is not carried out through face to face but it is possible in environments than classroom, so that the information can be easily shared with other learners (Asnafi & Hamidi, 2005).

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