Computer technologies and professional activities in the educational environment

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Abstract. The article presents the problem of person self-development and self-realization in a new environment in terms of considering the possibilities of teaching methods and mechanisms in the educational environment. Nowadays the educational environment is open and technological it provides the main subjects of education (students and teachers) the right to "personal order to change". Such an environment can be virtual and multimedia, where every teacher has the opportunity to draw his teaching trajectory through the intellectual internet resources and multimedia training programs.

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Introduction

In terms of socio -economic reforms in our country aimed at democratization of social relations and integration into the global information society, the demand for intellectual and moral potential of man to his general culture increases. Society needs people who are able to live independently, creatively and productively, to self- manage and continue to self-develop according to their life goals. One of the fundamental principles of state policy is the humanistic nature of education, the priority of universal values and the free development of personality. [1, 12 p.]

In this regard, the article presents the problem of self-development in a new environment in terms of considering the possibilities of teaching methods and mechanisms of self-preservation and self-realization in the educational environment. The main benefit of such development lies in the fact that a person, being free in his choice of ways of personal development, can independently initiate his own positive qualities and achieve personal growth through self-awareness and self-education.[2, 192]

Nowadays the educational environment is open and technological it provides the main subjects of education (students and teachers) the right to "personal order to change". Such an environment can be constructed through multimedia teaching, which provides students with the knowledge which they have to get by themselves, to reflex the information and use it in their work –in studying. Such an environment can be virtual and multimedia, where every teacher has the opportunity to draw his teaching trajectory through the intellectual internet resources. [3]

Analysis of the student's self-development as formation of his subjectivity let us to determine

pedagogical conditions of the process. Based on the structural components of the process of selfdevelopment (motivation, activity, reflexive control), we highlight the following pedagogical conditions of self-identity of the student in the educational space of the university: the capacity of computer technology usage as a teaching computer environments for selfdevelopment of students and the level of selfdiagnosis: providing opportunities for students to engage in didactic computer environment of selfdeveloping teaching (DCE SDT), involving not only the training and interpersonal communication, but also personal self-development as a form of selfaffirmation, self-actualization, self-acceptance, selfrealization and others; the inter-connection of the volitional self-regulation and moral qualities of the person; providing orientation of the educational process on the formation of the moral qualities of the person through the usage of spiritual and moral potential of Internet resources.

Nowadays new multimedia technologies are being ever more frequently used in education. Integration them with traditional methods of teaching has promoted new ways of looking at the process of education and has prompted innovative research related to teaching methodology. [4, 186 p.]

In our opinion, the development of computer, telecommunication, and on their basis of the information technologies stimulate the development of new educational technologies, which are based on new approaches to teaching concept. The computer medium for learning must be multimedia and include possibilities for interactive integration of various kinds of information.[5, 590 p.] Here we rely on the works of M.P.Karpenko and M.A. Moskovtseva, who distinguish two concepts of

modern education and the role of informational education there.[6, pp: 5-20].

The first is a "paternalistic" concept. Its essence is in the hard establishment of the teaching program, in the hard control over it. The concept proposes the wide usage of the information technologies, such as computers, networks, and educational training to work with them. By a number of other scientists (E.V.Bondarevskaya, V.I.Danilchuk V.V.Serikov, N.K.Sergeyevand others.), this concept is stood out as a technocratic or "knowledge- oriented" paradigm of education.

Against the creation of a "paternalistic" system the objection is put forward, that education must be adapted to current trends and the needs of society and each person individually, and the presence of rigid administrative control of common curriculum will likely alienate education. Alternatively "paternalistic" "liberal" concept of education was nominated. The essence of this concept is the use of information technology as a mediator between the rising every year the volume of information and personality. In addition, the training program must be strictly individual. The developers of the concept suggest, that the combination of these two components should make education process individual, based on the individual program. [6, pp: 5-201

According to E.A.Kryukova, knowledge and personal paradigms of education differ from each other in place, which they take in a person; either it is means or purpose. However, in reality they are not acting as opposites, but as two inseparable faces, as two levels of the aspect of the world developing y man. Personal approach does not mean rejection of informative functions of education. Student-centered pedagogy focuses on the development of personal attitude to the world, activity, himself. [6, 10 p.]

In pedagogical encyclopedia edited by B.M. Bim-Bad, personal approach is defined as "the consistent attitude of the teacher to the pupil as an individual, as a self-conscious subject responsible of his own development and as a subject of educational interaction. Personal approach is basic value orientation of the teacher, which determines his position in interaction with each child and staff. Personal approach assists the pupil in the awareness of himself as an individual, to identify, to disclose his capabilities, self-consciousness formation, in the implementation of personally significant and socially acceptable self-determination, self-realization and self-affirmation. Originality of person enriches team and other team members, if the content, the organization forms of life are various and meet the age characteristics and interests." In general, this opinion is the best reveals the concept of the personal

approach, where person comes to the fore as a subject of the educational process and its form of selfdevelopment: self-determination, self-realization, self-affirmation [7].

Goals and means in the pedagogical process -dominant of self-cultivation, which is aimed at selfeducation, self-affirmation, self-determination, selfregulation and self-actualization. One of the main criteria for self-development learning is unconditional finding the student in the learning space center, drawing strength and energy of selfdevelopment out of himself and other members of cognitive process at the periphery. This concept is the most successful, as it seems to us, combined with the basic principles of learning technologies in the didactic computing environment (DCE), although the latter needs refocusing on personal self-development and some elaboration.

Didactic computer environment, according E.A.Loktyushina [8], - a concept in a hierarchical structure is lower than the subject of implementing the educational process –a school teacher, professor, a pupil and a student.

As indicated at the beginning learning environment is methodological integrity of methodological, methodical and technological approaches, which define the structure, content and multimedia technology (computerized) training, providing the conditions of self-development and self-realization. Here it is important to include the teacher into activities for students' self-development considering their specific capabilities. Presence of the "supercritical" interactions field on a background of "subject -subject" relationship creates organizational and pedagogical conditions. Content of the teacher activity shows the conjugation process of selftransformation of the student and the teacher coordinator of the educational process. Both subjects, having an active "I - concept", carry out an innovative educational activities in a multimedia learning environment. Activity of the student in this case contributes to a desire for self-development needs. However, their role in a multimedia learning environment (MLE) is not identical: the teacher is an organizer and leader of the educational process and the student is a partner in a joint creative and innovative activity.

The teacher initiates the student change movement and uses the method of reflective analysis. It is noted that the experience of reflection enriches content of collaborative learning, cognitive and search-productive activities in MLE.

Awareness is an indicator of the process of self- development which is followed by a desire to self-improvement, it take a special place and plays a major role in this movement. Awareness as an

484

indicator of self- development is present from the beginning in the mutual relationship in the system "student-teacher ". A common goal is formed, achievement of which, on the one hand, can activate the self-development of the student, and on the other - the teacher as leader of the joint project work allows to look at himself from the outside, but at the student as a partner in cooperation. In this context, we developed a model of open, information, multimedia learning environment. It consists of 4 blocks: Valuetarget block includes the goal, objectives, functions, approaches and principles. Information- knowledge block includes content of teaching, its stages, means, methods, techniques. Program- strategic block is characterized in that it is focused on leading media functions such as integrative, fundamental, expansive and linguistic-oriented. Technological block contains technical equipment and technological support of the educational process. In modern conditions education cannot remain in a state of inner isolation and selfsufficiency. Educational environment in conditions of society and education informatization has the connection with the external environment through the Internet-technology [9, 592 p.].

MLE is constructed taking into account the professional and subject specifics oriented on its leading function. Integrative, fundamentalization, expansion, linguistic-oriented functions of MLE are defined. Integrative and fundamentalization functions are caused by the properties of universality and integrity of the educational environment. The expansion function is related to the properties of many aspects and redundancy of classical education. Linguistic-oriented function indicates the special role of language in pedagogical education. Multimedia training in the context of modernization of education implements "deepening integration and interdisciplinary programs in higher education, combining them with high-tech technologies" [10].

In practice of our research we organized specialized courses such as "Internet technology", "Modern methods of teaching foreign languages", "Information and communication technologies in language teaching" for the students of the Philology Faculties. We believe that effectiveness of students self- development in MLE based on student- activity and cultural approaches is achieved in an optimal combination of technological and spiritualeducational aspects while providing targeted educational and cognitive control, search and productive activity. The fundamental core of the educational process management is "interactivity". Dialogue between students and teacher is based on the properties of the interactive network. Therefore assimilation of knowledge takes place in a virtual environment system consisting of following

components: educational environment with databases (object of cognition); students and teachers are the subjects, and the telecommunication and multimedia technologies are used, the result of cognition- the accumulation of knowledge in the subjects in the system, expressed in their own educational product. This is - practice-oriented training projects in the form of digital educational resources (DER), the creation of educational sites, courses, etc.

Learning process management is based on the theory of the gradual formation of mental actions and concepts. Thus, for example, undergoes training technologizing if algorithms of actions of all subjects and other objects of reality are described. Learning models are created as learning systems. These systems simulate the learning process. Here it is possible to control the educational process at the level of application of digital educational resources (DER).

However, training and cognitive activities management can be carried out on the input stage of the training program content in the script or constructor. In particular, in instrumental training systems training simulation is created incrementally in the form of actions of a student, a tutor, a teacher, guiding the learning process through all sorts of comments: positive, negative answers and instructions, following actions of the student, help and knowledge control and other functions of educational activity. Student learning activities are designed in the form of a script.

On this plane, training activities can be considered as a development of the abilities of the individual, which is happening in special circumstances, where the managed objects are the structural units of the system. In this virtual environment interaction of reality objects generates simulation of learning process, taking into account opportunities of instrumental systems. If learning activity includes such interrelated components as learning situations and tasks, it can be subjected to modeling as any activity. Wherein, learning activities of student and teacher can be modeled and subjected to targeted management.

Targeted management of learning cognitive and search - productive activity of students in a multimedia learning environment is possible at the level of chat rooms and forums, teleconferences. In the context of MLE search - productive activity takes subject- significant character. According to P.I.Obraztsov, on the base of learning activity there is mediated pedagogical communication aimed at solving actual educational problems. Students interact with the teacher in the MLE through dialogue in the network. This interaction is regulated, directed, initiated by a teacher with the aim to manage learning - cognitive and search - productive activities of students. In general, targeted management goes horizontally on the levels of development of DER, in the group, in the "man - computer" system, as well as vertically from the teacher and at the chats, forums and on-line learning organization level.

In this process for the teacher the need in self-transformation is generated. Wherein, change self-organization of a teacher and self- presentation of students in MLE are considered as derivative of actual genesis in the result of active, independent and creative self-transformation. This means the ability to self-modifying, self-improvement based on the internal elements of individual development in an open multimedia educational environment.

Thus, in the process of such transformation in the educational environment need to change for teacher and self-development of the students are simultaneously formed. Teacher consciously manages the development changes as the process of independent, coherent, targeted and value-oriented activities. This creates the conditions for the conversion of self-development needs of the subjects into personal qualities, with the basis of which they create innovative orientation in pedagogy.

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6/29/2014

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