Structural and Functional Characteristics of Informational and Communicative Education Environment

L.P. Kachalova and Botakoz Tulbassova

Shadrinsk branch of Tyumen State University, Kazakhstan
Kazakh National Pedagogical University named after Abay, Kazakhstan

Abstract: Current situation in higher professional education apart from traditional education system demands new educational technologies and creation of informational and communicative education environment. Informational and communicative education environment while keeping the principles of education, educational technologies, methods and forms and means of traditional education must engage broad range of Internet-education, informational and communicative technologies. In the same time, the process of training of future specialists in informational and communicative environment has some specific structural and functional features. This article is an attempt to discover structural integrity of informational and communicative education environment, to define its components and functional-pedagogical potentialities which can be implemented in specialists training at an university.

Key words: Informational learning environment • Informational and communicative education environment • Functions of informational and communicative education environment • Components of informational and communicative education environment

INTRODUCTION

Significance of informational and communicative education environment is determined by changes in society, in different social spheres, including the necessity to prepare specialists at universities who are ready for efficient professional activity needed by society at the current stage of its development. All this determines the need in modernization of informational support of the processes of specialists training, creation of informational-communicative education environment which can turn into the factor of professional education’s renewal.

In scientific literature there are a lot of publications devoted to the problems of creation, development and functioning of informational and communicative education environment in university, experts investigate the possibility of structuring of informational learning environment, define its content follow-up, theoretic and methodological principles of building a system of informational learning environment, separate theoretical and practical aspects of use of informational and communicative resources in education are analyzed. Mechanisms and principles of functioning of ICT are presented in the works (V. Bespalko, A. Vagramenko, T. Vezirov, V. Laptev, M. Lapchik, E. Mashbits and others) Issues of formation of informational learning environments are considered in the works of (A. Andreev, Yu. Branovsky, S. Grigoriev, S. Lobachev, V. Moiseev, M. Nezhurina, E. Polat, V. Soldatkin and others).

In Russian and foreign studies there is no single point of view in regard to essence and particularities of learning in informational and communicative environment, its forms, methods and organizational means, criteria to assess its efficiency. Some experts believe that there is no big difference between (e-learning, web-based learning / Internet based learning) and traditional forms of learning both at the stage of learning and at the stage of knowledge obtained in the process of learning [1].

In the same time some experts believe that learning in informational and communicative environment is a quite new educational paradigm which is supported by
functional efficiency of ICT, which forms culture and in turn is formed by special learning culture (e-learning culture) which characterizes both e-learner and e-teacher (e-instructor, e-facilitator, e-supervisor). In this connection the problems of functioning of informational environments and particularities of pedagogical interaction in informational and communicative environment are investigated [2-4].

By now single formulation of the notion "informational and communicative education environment" has not been finalized in national science. Scientists consider it as unified combination of informatization means with due regard to specific character of the technologies used in different areas of activity of pedagogical university (learning process, organization and conducting of pedagogical practice of students, control and measurement of quality of teachers' training, work with teachers - university graduates, out-of-class, scientific-methodological and organizational-managerial activity [5]; informational learning environment is described as single system consisting of hardware, software, specialists and users, data- and knowledge-bases and other elements which implement information processes [6]; in some works informational learning environment is considered as highly-developed environment which is characterized by special structure inside university, based on potential of modern ICT, which suggests sustainable functioning and is oriented to achievement of new results in learning [7].

In these definitions informational learning environment is understood as a combination of software means.

We would like to characterize informational communicative environment in terms of its general concept and functional characteristics.

The concept of informational learning environment in research works of L. Kechiev, G. Putilov, S. Tumkovsky and others is described very clearly. It is an environment which on the base of combination of technical means provides informational support of education process subjects.

Communicative environment is more often considered in terms of combination of ICT used together with learning and methodological, technical and organizationally-instructive materials which facilitate realization of optimal technology of their pedagogical application. Functional potentialities of ICT are as follows: communications means on the base of local and global computer distributive computer networks; means to process information while doing paperwork on the base of automatized and informationalized working places; means to provide automatization in managerial decision-making, including artificial intellect [8].

Using definition of informational and communicative environment given by T. Kulikov we share the point of view which describes informational and communicative environment in terms of its functionality in educational process of the university; we shall consider informational and communicative education environment as combination of pedagogical, informational and communicative means and technologies and conditions providing informational interaction between subjects and means of learning process.

Defining functions, distinct features of informational and communicative education environment we based our approach on the idea that its content is connected with evaluation of efficiency of educational process, efficiency evaluation methods; opportunity to use ICT in educational process; involvement of students into the process of informational-communicative interaction intended for mastering knowledge, skills and experience which allows to solve professional tasks in efficient way; variation and adaptation of learning material depending on abilities of students. In the course of our study we have found out the following structural components of informational and communicative education environment: organizational, didactic-methodological, self-educational and presentational-personal.

Organizational component of informational and communicative education environment satisfies the need in engagement of network forms of organization of learning process targeted to plan efficient and high-quality education, creation of the self-determination situation, self-planning and self-organization of future specialists.

Didactic-methodological component is oriented to obtaining of educational results (personal, meta-disciplinary, disciplinary) by students which can guarantee achievement of new quality of higher professional education. Didactic-methodological component includes the sources of information, means of learning communication, electronic learning and methodological complexes. Their aim is to provide didactical support of educational process depending on its purpose and projection of a university discipline. The didactic-methodological component of informational
and communicative education environment is characterized by formed and being formed meta-disciplinary (cognitive, regulatory, communicative) ways of activity; learning specific elements of social and professional experience studied within the framework of separate learning disciplines is disciplinary result of this component.

Didactic-methodological follow-up of above mentioned component is formed side by side with e-learning complexes by e-educational resources which are filled up with such content where professionally significant problem becomes a task and oriented to active use of ICT. Methods of learning are subordinated to the tasks of transfer of the system of studied discipline into the system of learning discipline and must facilitate understanding of contents. In informational and communicative education environment choice of learning methods must be tied up with operational description which allows to actuate the use of computer means of learning based on the methods of computer simulation [9]. Means for presentation of knowledge in informational and communicative education environment can be text editorial programs, hyper-textual environments, graphic programs and presentation programs, programming languages, data bases etc.

The result of activity here is some product created by the learner who externalizes his knowledge, which was preliminarily internalized [10].

Efficiency of didactic-methodological component depends on the degree of completeness of subject-resource activity of students: use of different electronic editions as a source of knowledge, studying material with the aid of e-text-book, use of different types of multimedia products; leaving informational inquiry while searching for information.

Functioning of didactic-methodological component is provided by use of educational websites and portals, interactive and multi-media books placed there, off-line and on-line discipline courses.

Presentational-personal component is determined by the prioritization of personality-oriented principle in informational and communicative education environment which determines personalized results: students’ motives, needs, interests, completeness of I-concept of future specialists. Resulting characteristics of this component are as follows: preparation and conducting of public presentation, taking part in tele-communicational conferences.

Self-educational component facilitates mastering of formalized methods of analytical-synthetic procession of information with the aid of computer: bibliographic description, plan, foot-note, cite, thesis, summary, notes, abstract, critical article, literature review, library-research paper. This component is also oriented to formation of independency in preparation and formalization, with the aid of applied programs of general purpose, of the results of independent work in the course of learning and scientific-cognitive activity.

It is worth mentioning that here interactive interaction is important. In order to prove this we appeal to a point of view in which interactive component support is one of the significant characteristics of computer communication. We refer this characteristic to the interaction between students and the teacher, between students and between students as users and informational resources [11].

Mentioned above components can vary, change its contents, organizationally construct themselves in different directions, determined by specialists training at university.

The functions of informational and communicative education environment are viewed by us in the following way:

Firstly, technological function must be emphasized: informational and communicative education environment acts as a factor of learning putting all pedagogical technologies together: learning in cooperation, module-ranking system of learning, technology of contextual learning, technology of project activity etc. which are oriented to self-study of a student, where a product of such activity can be presented which can be evaluated by the teacher and fellow-students, be in demand in learning or practical activity. Use of ICT facilitate development of cognitive skills, abilities to structure and actuate one's own knowledge, orientate oneself in information space, facilitate inculcation of critical and creative thinking in future specialists, ability to see, give grounds and successfully solve the problem.

The function of engagement of didactical potentialities which suggests intensification, increase in degree of illustrativeness of learning material, individualization of learning; increase in a share of independent work at the expense of extension of technical and resource base of humanitarian disciplines and project activity; use of the elements of remote support of educational process; increase in efficiency of work with textual sources and scientific resources thanks to
opportunity to include into text the means of its studying and using other means of work with e-text; integral presentation of learning and scientific information through multi-media and hyper-media; increase in diversification of audio-forms of educational process; formation of informational simulation skills [12].

The function of personality-orientation of informational and communicative education environment suggests that internally the content of this environment is extrapolated onto the student personality’s structure: formation of cognitive activity, educational independence, personal features, self-realization; onto achievement of thinking culture, formation of features which are necessary for any kind of professional activity (responsibility, communicative skills, self-control, professional self-assessment) and onto development of skills (cognitive, communicative, organizational skills).

The function of management is determined by fine psychological structure of the processes of self-organization, self-movement which demand management of psychological climate, interactions, interrelations of teachers and students. Management mechanisms of informational and communicative education environment must be oriented to development of critical thinking, the culture of thinking, self-expression, introduction of timely perspective changes into activity and organization of interaction between students and teachers.

Thus, structural components are characterized by saturation of educational environment with informational resources of different communicative means, on the one hand, they facilitate self-realization of students; on the other hand, informational and communicative education environment functions as information culture realizing learning and formational impact on the personality of future specialist.

REFERENCES