International Review of Management and Marketing

ISSN: 2146-4405

available at http: www.econjournals.com

International Review of Management and Marketing, 2016, 6(S1) 114-118.

Special Issue for "Socio-Economic and Humanity-Philosophical Problems of Modern Sciences"

Psychological Bases of Formation of Key Economical Information Technology Specialist Competencies of Higher Education

Valentin Y. Lyubashits[1]*, Alexei A. Shirshov[2], Leonid M. Lopukhinskiy[3], Tatyana O. Bondareva[4], Faiz F. Khizbullin[5], Lydia M. Stratonova[6]

[1]Southern Federal University, Rostov-on-Don, Russia, [2]Far Eastern Federal University, Vladivostok, Russia, [3]Kuzbass State Technical University Named after T. F. Gorbachev, Kemerovo, Russia, [4]Kazakh National Pedagogical University Named after Abai, Almaty, Kazakhstan, [5]Ufa State University of Economics and Service, Ufa, Russia, [6]Ufa State University of Economics and Service, Ufa, Russia. *Email: info@sfedu.ru

ABSTRACT

The article presents the economic and social changes in society related to computerization and the inclusion of new economical information technologies in all spheres of life that pose new challenges with respect to the determination of the content of economical-technological preparation of the future economist at the institute, as well as the psychological aspects of the formation of the key information and economical-technological competence at the Institute in stages starting with the creation of his project. The article analyzes the literature on the subject, set forth the means and methods of educational process at different levels, the conditions and the content of education specialist of the profile elements and levels of formation of key information technology competencies opinion on the appropriateness and necessity of the use of new information technologies as a means of improving the quality of learning process.

Keywords: Psychology, Economical-technological Competence, Information-technological Competence
JEL Classifications: A20, H70, I20

1. INTRODUCTION

At the present stage of social development of psycho-pedagogical practice shows that there are now purposefully organized forms of professional training of future economists are no longer able to cover the whole range of problems that arise in the practice of the specialists of economic profile. Therefore, the search for new scientific approaches to the design and implementation of preparation of economists in higher education is needed. One of the most effective methods for solving this problem, many scientists believes the formation of key information technology skills.

By the psychological component of professional information technology competencies include the development of professional thinking on the basis of individual abilities of the student as well as his motivation and will. It is obvious that in the thinking of high school graduate should be unity of common cultural and professional competences. The graduate should be ready not only to show the knowledge and skills, but also to be able to true conclusions.

Establishing a single global economic, social and cultural space - is an objective reality of the modern world. Today, computers are taking over the role of the World Bank and the information of the mobile communication means. The society is in the process of rapid development and use of computer technology in all spheres of activity. It manifests itself in key areas such as the economy, education, medicine and industry. Computerization of all spheres of activity entails the need to acquire the ability to quickly obtain, retain, transfer information and skill to use it in their professional activities. Formation of key information technology competencies of the future economists in the Institute is based on the "introduction of the institution of the education system of information tools based on microprocessor technology, as well as information products and educational technologies based on these products" (Vorobiev, 2002; Muenks et al., 2015).

The process of formation of key competencies of information technology begins with the creation of his project. At this stage of development of science design was applied not only in the traditional areas of designers, architects, builders, but also in the psychological and educational activities. Hence it appeared in the psychological and pedagogical practice a new term "design and training activities." The term is borrowed from abroad, it is a scientific basis for the project method, which is widely used in the US, UK and is currently gaining popularity in our country.

Economic and social changes in society related to computerization and the inclusion of new information technologies in all spheres of life, create new challenges with respect to the determination of the content of economical-technological preparation of the future economist at the Institute. Among these problems are the following:

- Preparation of specialists in economics with the skills (experience) to work with your computer and relevant software.
- Formation key information technology competencies of the future economists in higher education.
- Increase the efficiency and quality of training of graduates of Institute on the basis of new information technologies in education.

2. LITERATURE REVIEW

Determining the content of the information technology training involved many researchers (Vorobiev, 2002; Neier and Zayer, 2015). In our research we try to determine the content of the information - technological preparation of the future economist at the institute, and evaluate the effectiveness of use of the new information technology to form the key information - technological competencies. Babansky defined the content of the training as "management, which is organized on the basis of a comprehensive accounting laws, principles of teaching, modern forms and methods of teaching, as well as the features of the system, its internal and external environment in order to achieve the most effective (within the optimal) process performance in terms of predetermined criteria" (Babansky, 1984; Wiese and Sherman, 2010).

Thus, the need is clearly seen in the definition of educational technology mechanism that would facilitate the approximation content-economical-technological preparation of the future economist to a given higher education GEF result. According to most scientists, such educational technologies should be based on the use of computer technology, new computer programs, which are called new information technologies in education.

The main difference of the new information technologies in education to other psychological and pedagogical technologies is the ability to use methods, techniques, methods and means of computer technology for information on the academic disciplines. With regard to information technology in teaching D. Sh. Matros wrote: "Since learning is a transfer student information and information technology - a process associated with the processing of information, it can be concluded that in teaching information technology is always used. Moreover, any technique or pedagogical technologies describe how to process and transmit the information so that it is best assimilated by students, i.e., any pedagogical technology - an information technology" (Matros, 1996).

We share the view expressed, for example, in studies of Starichenko and Ivanova that the new information technology education - is "a set of organizational forms of pedagogical techniques and technologies of management of educational process based on the use of modern computer and telecommunications systems and ensuring the achievement of educational standards adopted by the mass of students" (Starichenko, 1995).

Thus, information technology education includes the means and methods of educational process at different levels, the conditions and the content of education, as well as computer equipment. Under our information technology education is a combination of conditions, techniques, methods and tools targeting teacher learner, which will contribute to the formation of key information technology skills required for the future practice of the specialty.

3. METHODS AND MATERIALS

Thus, information technology education includes the means and methods of educational process at different levels, the conditions and the content of education, as well as computer equipment. Under our information technology education is a combination of conditions, techniques, methods and tools targeting teacher learner, which will contribute to the formation of key information technology skills required for the future practice of the specialty.

The primary means of information technology advocates computer. By means of new information technologies of education also include local area networks; terminal equipment; input devices and manipulating information; means archiving information; means for converting the graphics or audio information to digital and vice versa; modern communication systems; software packages, etc. You can also select a special group means - information technology processing of text, graphics, sound, numeric data and a variety of other information resources, which are used by means of software applications and tools (programming languages).

Inclusion of new information technologies in educational process allows the teacher and the student to carry out the following actions:

- To carry out rapid access to domestic and foreign sources of information (libraries, scientific and educational centers, and others).
- Saves large amounts of information.
- Improves the speed of collecting and processing information about pedagogic processes, phenomena and objects.
- Simulate the pedagogical phenomenon.
- Quickly disseminate and implement the results of research in a broad pedagogical practice.

Many scientific studies (Vorobiev, 2002; Matros, 1996) Noted active interaction of students with the means of the new information technologies. It contributes to the development of visual-figurative, visual-motor and other types of thinking; aesthetic education

by means of multimedia technologies and computer graphics; and Development Board communicative abilities and cognitive activity; Formation of professional competence, i.e., correctly skills quickly and make a decision in a difficult situation, the use of various software products.

The business games the new information technologies contribute to the development of skills to carry out creative, research, autonomy of action. There is a consensus on the desirability and necessity of the use of new information technologies as a means of improving the quality of the learning process. It should be noted that the content of economical-technological preparation of the future economist at the Institute in contradiction with the level of readiness of teachers to use information technology tools in the educational activity. Results ascertaining experiment showed that only 27% of teachers of the respondents are ready to use the computer and information technology in teaching students; 45% - are experiencing difficulties, and 25% - cannot cope alone with the computer. Most teachers (82%) would like to improve their level of information culture and agree on the usefulness of computer use in the educational process.

Considering the content of economical-technological preparation of the future economist at the Institute, it is necessary to pay special attention to the organization of individual and independent work of students using a computer. When students use computer technology as a tool to solve the educational problem, they need to consider all possible options to solve the problem in complex situations, to study the theory and technology of the submission of new information. Posing students independent tasks aimed at solving the real problem of future economic activity, the teacher engages them in the process of obtaining new knowledge is subjective. This contributes to a better understanding and lasting assimilation of knowledge, not just memorization of information received from the teacher.

A high level of formation of key information technology competencies future economist suggests the following qualities:

1. Fully aware of the personal meaning and significance of the economics profession.
2. Improves the individual and socio-cultural experience. He is able to accumulate social experience, study and disseminate the experience of others.
3. Has the ability to creatively solve problems in practice, it generates entrepreneurial ideas.
4. In practice, dominated by the originality and creativity.
5. pronounced analytical and reflexive skills, economic intuition, positive emotional orientation, determination, energy, initiative, independence in economic decision-making.
6. Mostly creative level of formation of a positive image of a specialist.

4. RESULTS AND DISCUSSION

The content of the information technology training at the Institute is directed to the formation of key information - technical competence of the graduate in economics, and includes the following elements:

- Information - technological knowledge is a theoretical and methodological basis for the formation of key competences of future specialist economic profile.
- Specialist skills that make it suitable for the implementation of professional and economic activity.
- Emotional and value attitude to information technology activities in the field of economy.
- Personal experience of information technology operations when dealing with economic information.

The content of information and economical-technological knowledge graduate Institute of Economic specialties are:

1. The fundamental concepts of computer science (information model, algorithm, software, computer, etc.).
2. Theoretical questions related to the representation, transmission, storage and processing of information by computer.
3. The general principles of the structure and operation of the equipment and computer software.
4. Knowledge of the appointment, the application, the universal principles of the information and computer technologies, their functionality, disadvantages and methods of their use for professional economic objectives.
5. The theoretical questions related to the construction and use of databases, the use of computer graphics.
6. Knowledge of the principles of work of basic computer units.
7. Knowledge of the structure and content of economic disciplines.
8. Knowledge of the processing technology of economic material.
9. Knowledge of the capabilities of modern computer technology in the field of automation of accounting and economic analysis, and others.

Information technology skills of the future economist, formed at the Institute, should include:

1. Organizational, informational, design, skills, necessary for the implementation of economic activities with the use of information technology.
2. The ability to migrate information technology knowledge from one sphere of economic activity to another.
3. The ability to find the relationship between the various objects of economic activity.
4. The ability to use information systems of economic content, as well as software products for solving specific economic problems.
5. The ability to use local and global networks for the efficient processing of information necessary for professional tasks.

Personal experience of economical-technological preparation of the future economist includes:

1. The experience of using computer technology and other information tools.
2. Experience in assessing the prospects of development of information technologies for predicting its future activities.
3. The experience of studying the latest achievements in the field of information technology.
4. The experience of an objective analysis of their professional capabilities, identify ways of their development, and others.

For the formation of these elements are present, the information technology specialist training in economics, in addition to studying the theoretical course, must also be a requirement for laboratory works with a PC and software packages, create a database and access of students to a variety of online information sources, including the Internet. Performing laboratory practice, students gain and fix knowledge and skills to work with information that contributes to the formation of key information - technological competencies required of future specialists.

State, federal educational standards 080100 "Economics," 080200 "Management," 080400 "Human Resources," 080500 "Business Informatics" require future bachelors of mastering the following general professional skills: To present, discuss and effectively defend the opinion in formal and informal settings, in writing and orally; listen and perceive analytically written information, including the perception of cultural and linguistic differences; to seek, receive, organize, execute and use written information in oral, print and electronic sources. Educational activity is a complex volitional psycho-pedagogical process involves several stages:

- A sense of purpose and commitment to achieve it
- Identifying opportunities to achieve the goals
- Development of motives
- Determination of the trajectory of the implementation of decisions taken.

The formation of these skills will greatly contribute to the mastery of new information technologies.

In forming the core competencies of information technology must take into account the fact that an expert in economics should know (Kobersy et al., 2015):

- At least three types of information data processing systems
- Autonomous mini computer system and a local network system
- How to access and search data in online databases
- How to use e-mail, text-program, the program matrix calculations, databases and - Packages, at least - one of the accounting (accounting) program.

As a result of psycho-pedagogical process of formation of key competencies of information technology professionals in their levels can be distinguished of formation (Table 1).

5. CONCLUSION

Innovative processes in the economy in the last decade stimulated in Russian society, the development of skills needs at all levels in the field of economy, capable of practical creativity, initiative, enterprising, ready to solve non-standard problems, problems and objectively analyzing the supply and demand in the market economy.

Table 1: The level of formation of professional competence

Stages	Levels	The components of professional competence			
		Content-evaluative	Motivational and volitional	Socio-cultural	Professional and personal
I stage	I level	Based on the basic knowledge of their professional activities to take possession of skills	Develop motivation to assimilate knowledge	Conscious perception of knowledge as a means of intellectual development	The development of the perception of the need for professional knowledge
	II level	To digest and process the information	Possess the motivation of mastering and processing of knowledge	Acquire knowledge, develop intellectually	Develops the need for treatment and the assimilation of information
	III level	Develop the ability to update the knowledge of the use of information technologies	Forming convictions update their knowledge using information technology	Update knowledge, increasing your intelligence	Develops need to update professional knowledge
II stage	I level	Develop the ability to use knowledge in solving professional problems	They know how to evaluate the knowledge and use them in solving professional problems	Aware of the social importance of knowledge	Have a constant need to improve the professional knowledge
	II level	Develop skills in the use of knowledge in practice	They know how to apply the knowledge in practice	Aware of the relationship of professional work with the world	Able to process and absorb professional knowledge and apply them in practice
	III level	Possess skills analytical approach to the application of knowledge in practice	They have a need to identify analytical skills, setting goals in solving professional problems	Apply knowledge, taking into account the surrounding social and cultural environment	Develop a continuing need to update professional knowledge
III stage	I level	They learn the skills of creative research expertise, their processing using PC and perception	Develop motivation to master the skills of creativity and perception of knowledge using computers	Apply a creative approach to knowledge, taking into account the social needs of the community	They know how a creative approach to professional activities
	II level	Learn the skills of creative approach in finding, processing, development and use of knowledge in practice	Develop awakening creativity of solving professional problems in practice	They know how to be creative in the use of knowledge, taking into account the environmental social and cultural environment	Exercise creativity in constant updating of knowledge

Training future economist includes economic and information technology knowledge and skills. The content of the information technology training should contribute to the formation of key competencies of information technology in higher education, aimed at increasing the knowledge and skills of the future expert to use hardware and software of new information technologies. Technological preparation in vocational training, according to Churkin: "It shall ensure students' understanding of the variety of processes and bringing them to the common technical basis; to the concentration of the various production processes in the single technological complex, and as a conclusion: The concept of form that objective combination of different specialties, requires different skills and knowledge at the same employees, the production of a wide profile, high technical culture" (Churkin, 1998). This definition for we have very important economic relationship, information and technological components, as well as the objectives of technological preparation in the form of key information technology skills.

REFERENCES

Babansky, J. (1984). The personal factor optimization training. Questions of psychology. Moscow: Pedagogy. p.314.

Churkin, S. (1998), Scientifically-methodical bases technologies - Economic training of students in pedagogical high school. Moscow: Moscow Pedagogical University.

Kobersy, I., Barmuta, K., Muradova, S., Dubrova, L., Shkurkin, D. (2015), The system of the methodological principles of management of enterprise development. Mediterranean Journal of Social Sciences, 6(3), 25-30.

Matros, D. (1996), Information model school. Information and Education, 3(5), 1-10.

Muenks, K., Miele, D., Wigfield, A. (2015), How students perceptions of the source of effort influence their ability evaluations of other students. Journal of Educational Psychology, (In Press). http://www.dx.doi.org/10.1037/edu0000068.

Neier, S., Zayer, L. (2015), Student's perceptions and experiences of social media in higher education. Journal of Marketing Education, 37(3), 133-143.

Starichenko, B. (1995), An integrated approach to the use of technology in the classroom. Ekaterinburg: USPU. p.76.

Vorobiev, S. (2002), Workshop on International Standards of Accounting and Audit with the Tools of Information Technology. Yelets: Yelets State University. p200.

Wiese, N., Sherman, D. (2010), Integrating marketing and environmental studies through an interdisciplinary, experiential, service-learning approach. Journal of Marketing Education, 33(1), 41-56.