

Pedagogical Problems of Effective Training of Specialists in International Virtualization of Economic Industry

Elena Yu. Bobkova¹

Elena V. Korobejnikova¹

Elena G. Nelyubina²

Varvara A. Likhman¹

¹Samara Institute of Plekhanov Russian University of Economics

²Volga State Academy of Social Sciences and Humanities

E-mail: vica3@ya.ru

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Abstract

The article outlines the main problems of modern higher education in terms of international virtualization industry. The authors developed a technique of formation of information and professional competence of the economic profile, which presented its basic components, we consider a system of pedagogical conditions that affects the level of formation. The essence of the competence approaches to the preparation of information at the high school in the framework of academic mobility, it was given the theoretical and experimental study of the essence of information and professional competence and its significance depending on the scope of activities; it was developed and scientifically grounded information competence-based education technology students at the high school; criteria and indicators to measure the level of information and professional competence of specialists and effectiveness were developed in the study of the technology of formation of students of the high school. The authors believe that enhancing the innovative pedagogical training of specialists of economic profile can be achieved by allocating as an independent integrative learning objectives the formation of bachelors and masters of information and professional competence, which is manifested in all competencies related to information aspect of knowledge, information and intellectual skills and capacity for reflexive self-organization in addressing educational and professional tasks and problems through the involvement of information resources. A necessary condition to achieve this goal in an educational institution is the introduction into the educational process special information competence-oriented learning technologies.

Keywords: innovative training, undergraduate, academic mobility, professional competence.

1. Introduction

Dynamic socio-economic relations, changes in the world economy and industry and the increasing demand for new skills necessitated operational profiles reform of higher education in accordance with the social order and the virtualization of all spheres of public life (Kivlyuk, 2014). Despite the significant scale of the multidimensional training in higher education, it is still, according to experts, is not fully consistent with the social order. Potential employers of graduates are not satisfied with their level of competence in meeting the new challenges due to the nature of modern social development, however, vocational education institutions are not ready to move from "knowledge" to "competency-based" approach in the development and implementation of educational programs, learning technologies and systems for evaluating its quality (Stetsenko & Yaschuk, 2014). The transition to a new information society formation necessitated the integration of innovative technologies in educational process of preparation of socio-specialists.

Experimental study of the experience of formation of information competence of students in the areas of economics, also showed that: knowledge in the field of information technology are not considered by them as specific scientific, understanding of the scope of their application in professional work as a research base is very limited; because of the lack of methodologically sophisticated links between the course of computer science with other disciplines of professional educational standards are declining motivation of students to the serious study and the level of their information and professional literacy; bachelors often do not have the ability to quickly identify and analyze issues in connection with the aborted techniques of statistical analysis and generalization of professionally relevant information with the use of computer-based tools (Alehin, 2014). A significant proportion of employers recruiting young specialists of

economic profile, and the graduates, also note the lack of skills of the creative application of information and computer technologies to solve non-standard economic challenges.

The hypothesis of the study, the results of which are presented in this paper, is based on the assumption that enhancing the innovative pedagogical training of specialists of economic profile (Gaynutdinov, 2014) can be realized by:

- selection as an independent integrative learning objectives formation of their information and professional competence, which is manifested in all competencies related to information aspect of knowledge, information and intellectual skills and capacity for reflexive self-organization in addressing educational and professional tasks and problems through the involvement of information resources;
- use special information competence-oriented learning technologies;
- within the framework of the educational technology resource that integrates a large amount of structured information on educational and economic subjects in a single styling and a single set of services for convenient access to information resources and manage its contents.

Objectives of the study due to the intended purpose have the following structural-logical view:

- a) analyze current requirements of employers to the level of professional training of specialists of economic profile and the existing standards of higher economic education (Robert, 2014 & Voytovich, 2014);
- b) identify the key competencies of specialist economic profile and to reveal the nature of the informational component of their professional competence;
- c) design and implement experimental approbation of the author's technology of formation of information and professional competence of a specialist economic profile in higher education;
- d) conduct a pilot study of the effectiveness of using this technology in the educational process.

The study was conducted in three stages: the first stage - was studied modern state of the problem, we have analyzed the pedagogical, sociological and special literature, studied teaching experience, developed a scientific instrument, refined essence of key concepts, selected diagnostic techniques and conducted ascertaining experiment; in the second stage, the model was designed, key competencies demanded in the labor market specialist economic profile, developed technological model of formation of information and professional competence of the economic profile in the higher education system subject to the requirements of academic mobility, designed the methodology of the organization of experimental work and was carried out experimental testing technology (Bobkova, 2011).

In the third stage of analysis, systematization and generalization of the results, their interpretation, carried out the implementation of research results into practice.

Scientific novelty of the study, the results of which are presented in the paper is the following: the essence of the competence approach to the preparation of information at the high school, given the theoretical and experimental study of the essence of information and professional competence and its significance depending on the scope of activities (industry, trade organizations, organizations providing financial services, etc.); developed and scientifically grounded information competence-based education technology students at the University, ensuring the formation of their information and professional competence, including the target, the substantive, procedural, software, hardware and the controlling elements; and criteria and indicators to measure the level of information and professional competence of specialists and effectiveness developed in the study of the technology of formation of students of the high school.

Theoretical significance of the research consists in the following:

- in the categorical system of pedagogy of professional education introduced the concept of "information and the professional competence of an economic profile", "Informatization-innovative learning environment of high school, "information competence-based education technology" ;
- formulated a conceptual framework technology model of formation of information and professional competence of specialists of economic profile, based on the theory of competence-based, integrative and personalactive approaches;
- given the theoretical and experimental justification of the need and feasibility of providing profile orientation of the ICT training of students through interdisciplinary integration of subjects included in general education, general professional and special blocks educational standards, as well as through the creation of educational resource that integrates within the educational topics educational information;
- theory of evaluation of the quality of vocational education supplemented diagnostic indicators and tools examining the level of information and professional competence of students in the field of economic activities, as well as indicators of cognitive analysis of quality information technology of its formation.

2. Literature Review

The current research focuses on various aspects of informatization of education: philosophical, psychological, pedagogical, methodological (Kuznetsova, 2014). Problems of application of information technologies in the educational process of the education system are revealed in the works of many Russian and foreign authors (Kivlyuk, 2014; Bobkova, 2014; & Robert, 2014), however, analysis of the leading pedagogical practices in Russian and foreign universities suggests that to date, the process of using them is very slow (Voytovich, 2014).

The unresolved so far in the theory and methodology of professional education of all the abovementioned contradictions identified the relevance of the study of educational problems of effective training of specialists of economic profile in terms of international virtualization industry.

3. Methods and Materials

The complexity of the tasks of education requires special care of methodological tools appropriate to the nature of the studied objects. Theoretical and methodological basis of the study were: a systematic approach to the study of pedagogical phenomena; geological and historical approach to the design of the model of a specialist; student-activity, occupational, and competence-based approaches to the design objectives, content and learning technologies in the system of vocational education; psychological and pedagogical theories of developmental education, ideas relevant to the integration of the content of vocational education (Kuznetsova, 2014).

Research methods: analysis of documents and scientific literature, summarizing the experience, observation, survey methods (questionnaire, interview), ranking, scaling, modeling, summative and formative experiment, statistical treatment of data (Stetsenko & Yaschuk, 2014).

In the research process at different stages involved over 300 students, also 100 representatives of commercial organizations - potential employers of future specialists of economic profile were interviewed. Theoretical analysis of pedagogical ideas will allow you to make scientific generalizations on important issues of training and education, as well as find new patterns, where they are impossible to detect with the empirical methods of research.

4. Results and Discussions

Theoretical and experimental study of the social and didactic aspects of the implementation of competence-based approach to innovation in the training of specialists of economic profile in the higher education system consists of two fundamental aspects: social and didactic. The social aspect reflects the need and areas for improvement of this training based on identified during the pilot study of the requirements of employers to the level of professional competence of graduates in economics. The didactic aspect formed by the results of problem analysis of existing training of students at the leading universities of Russia and abroad.

Obviously formulated today in the standard and the software requirements for the individual and professional activities should reflect the deep essence of the profession, compared not only functional repertoire of a particular professional activity, but its socio-cultural and temporal conditionality, dominant values, historical periods, and values the development of the profession itself. This statement is the basis of geological and historical approach to the modeling a specialist and conditions of training. As a methodological basis, specifying the approach, can be considered professional graphic ("professiogram" as a model), student-activity (in the model highlights the complex personality traits, providing specialist high level of self-regulation of professional activity), ethical and humanistic (model personal qualities of expert to enable it to effectively solve challenges, differentiable on "objective" and "subjective" factors of effectiveness), competence (in the model reflected the different groups of competencies - personal and social, academic, economic, organizational, managerial, general, special, etc.)

Considerable attention in the professional standards currently given to the creation of pedagogical conditions for the formation of information culture of specialists of economic profile.

The main thrust of research related to information about culture specialist and focuses on its formation to the present time around three issues:

- theoretical understanding of the characteristics of information as a phenomenon of the world and as part of the educational process in which under the influence of information and cultural environment is the socialization of human rights and development profession (methodological aspect perspective);
- simulation of the activities of social institutions (schools, libraries, information centres, family, etc.) involved in the formation of information culture (institutional aspect);

- building technology of this formation, appropriate means and methods of influence on the person for the purpose of development of its information resources, skills, use of information in educational, professional purposes and for your own creative self-development (didactic aspect).

A study of the requirements of Russian and foreign potential employers to a specialist economic profile allows you to highlight in the model as a particularly significant for its successful operation, information and professional competence, which is manifested in the level of knowledge and skills from the field of information technologies, information and communication skills, the ability to implement integrative dialogue in a single information space (Mukhamedzhanov, et al., 2014).

Information and competent specialist is a community of information entity information carrier of knowledge, able to actualize them in the process of solving professional problems and in managing their own professional development. Information and professional competence performs several functions (Voytovich, 2014).

As "information culture" information competence performs in a person's life, certain functions - cognitive, communication, adaptive, regulatory, valuation, regulatory, etc. Cognitive function is related to the systematization of knowledge in the process of learning and self-discovery by man of the world and himself. Communicative functions are "paper and electronic media (intelligent tutoring system, hypermedia systems, ebooks, "microcosm", automated training systems, telecommunications). This function is to transfer the rational and emotional information through verbal and nonverbal means, in dialogue with the joint of professional activity.

Adaptive function allows you to adapt to the conditions of life and work in an information society. Regulatory function contains indicators of achievement and development, primarily as a system of norms and requirements in the information society and is subject to moral norms and legal norms of law, which must be guided in their professional activities in life. The essence of the evaluation function is the ability to navigate the flow of information, to identify and select the known and new, to assess significant and minor. All the functions of enlargement are presented in a developmental function that allows a subject not only to understand and follow a certain system of knowledge, norms, rules, act in the modern information society, but also to implement a proactive, independent and creative work that leads to its fulfillment.

The regulatory function connected with giving labor required processability due to the accounting information factor. Cognitive-epistemological function is to systematization of information flows and processes for effectively leveraging creative cognitive potential in the interests of the profession.

Analysis of these features allows you to highlight the structural components of information and professional competence - motivation and values, communicative, regulatory and reflexive.

The motivational value component represents the professional and personal self-determination of the expert to the use of knowledge and skills in the field of Informatics in the implementation of the work.

The factors affecting the level of formation of these motifs, followed by M. Chebykina, we believe it is possible to relate the condition of the learning environment, material and moral incentives, opportunities for personal growth and methodically correctly organized training activities (Chebykina & Bobkova, 2014).

Regulatory - associated with the direct application of knowledge in computer science to solve professional problems. Regulatory component as a backbone element of information and professional competence involves the enrichment specialist knowledge and skills from the field of Informatics and information and communication technologies, interactive dialogue in a single information space, the development of information and intellectual and communicative abilities.

Communication skills involve: the ability to understand relationships of people to perceive the situation of communication, to use the experience of others; the ability to understand the communication partners, their motives and goals; the ability to cooperate. They are manifested in the ability to consult, to discuss the project, plan, program, to participate in joint projects of reconstruction of production, to make a report, the report on the production meeting and scientific conference.

The reflective component is an assessment specialist for the level of information culture and design conditions improve. The reflective component is determined by the level of self-esteem, understanding of their responsibility for the performance of the organization, self-knowledge and self-realization in professional communication. In a number of research reflexivity is seen as one of the fundamental characteristics of professional activity and professional communication seen in the ability to consciously control the results of their activities and to assess the level of their own professional development and personal achievements in the initiative, the ability of foresight, forecasting the results of its activities and relationships.

The reflective component of the information and professional competence of students was studied by the nature of their analysis of situations involving the application of knowledge from the field of Informatics and computer technologies

in educational and professional goals. There are the following levels of reflective skills: situational (intuitive, emotional, sensual and reflective self-assessment of the success of attracting media to address professional (educational and professional) tasks), qualification (criterion analysis of success), prognostic (full reflexive self-organization in addressing information and professional tasks). The study of the reflexive component was carried out using a questionnaire survey of the students themselves and the method of "experts" (as the experts were the teachers of the disciplines of marketing and computer science). As shown by the summary of the results obtained using these methods at the stage of the experiment, 53% of students had situational reflective component level, 36% in qualifying and only 11% is predictive. At the same time, after conducting a formative experiment, predictive level was already diagnosed in 49% of the students.

The degree of formation of the named components of information and professional competence determines its level. Evaluation criteria this level can be divided into two groups - cognitive and creative.

Criteria cognitive group allow you to identify the consistency and completeness of professional knowledge of the future economist (volume internalized educational material, understanding of theoretical and practical material, ability to generalize and qualified material).

Within the criteria of creative group assesses the degree of awareness of the significance of information and professional competence in professional work, the satisfaction of needs in mastering computer knowledge, abilities and skills, the manifestation of sustained information and intellectual activity, the ability to consciously control the results of their activities and the level of personal achievements.

Developed in the framework of the research the concept of competence-based approach to the simulation of the conditions of innovative training marketers in the University, includes: characterizing the nature and structure of information and professional competence of the economic profile as an educational outcome; the justification of principles of competence-oriented training of specialists of economic profile and appropriate to these principles leading ideas that form the basis of development of technology empowering them with information and professional competence.

Information competence-based education technology specialists of economic profile has a number of key elements: trust, information-content, process, software, hardware and controlling. A special place in the given technology: information and educational resource (site); the special design of the educational content with regard to the principle of core integration; inclusion in the educational process of reflexive stage, by allowing the organization of reflection studying educational process built in information technology, strengthen its competence orientation.

Efficiency of the developed educational technology is inextricably linked with the concept of pedagogical site foundation seem.

The implementation of the principle of professional orientation in the concept of the site Foundation seem when shaping information and professional competence involves a spiral deployment and modeling the basic elements of the system of economic knowledge as well as designing special technology development, in particular, information.

The importance of information technology is due, on the one hand, to the logic of development of information and educational systems, considered as a complex including computing and communications hardware, software and system staff, providing support for dynamic (variable in time) of the information model of the education system to meet the information needs of individuals, society and the state, on the other hand, the impossibility of a direct transfer of the implemented concept for the site a weak school base formed of knowledge, skills and skills, most of the existing first-year students and not allowing to use them as a basis.

As the performance criteria was developed during the study of the conditions of formation of information and professional competence of specialists of economic profile was used: the quality of the information technology training; changes in the level of the informational culture in the formative experiment. The cognitive results of the analysis confirmed the optimality of the structural elements of the technology and allowed us to identify those that are key to shaping marketers.

Also, during the experiment examined the dynamics of indicators characterizing the motivational value, meaningful procedural and reflexive components of information and professional competence, namely: the level of motivation training and outreach activities, professional orientation and professional interests; the level of development of the system of specialized knowledge; the level of integration of professional knowledge and knowledge of information technology; proficiency in innovative technologies for the exercise of professional activity; level the use of technical means of collection and processing of information and communications; the level of reflexive self-organization in the process of solving training problems using information technology.

The results of the comparative analysis of data obtained at stages summative and formative experiments in control and experimental groups and their statistical analysis in the evaluation measures the materiality of the differences confirmed the effectiveness of the developed approach.

5. The Confirmation

The reliability and validity of the results and conclusions are provided: a diverse methodological and general pedagogical base; applying a systematic approach to solving the problem, application of research methods, which is adequate to its purposes and objectives, the representativeness of the sample; qualitative organization of experimental work and its long-term nature, the statistical significance of the results. There were presented the results of a survey of students and representatives of commercial organizations - potential employers of future specialists of economic profile (Galkina, 2014). The analysis of documents and scientific literature, summarizes the experience, applied statistical data processing.

6. Conclusions

Socio-economic changes underway in the global economy in the early twenty-first century has led to objectively existing qualitative changes in the structure of the social order for training of specialists of economic profile, able to independently and professionally to solve problems in their practice, to predict their possible consequences, to lead productive dialogue and improve their knowledge (Galkina et al, 2014). In terms of virtualization and globalization of economic processes in the Russian and foreign employers must meet new requirements to the specialists of economic profile.

In the context of the competence-based approach, the authors highlighted successful professional competence of a specialist economic profile, which is defined as a set of competencies:

- information-analytical (ability to reflect the process of organizing professional activities activities and select the best options based on a creative approach to the use of computer technology);
- design and research (ability to develop innovative projects based on multivariate study of the internal and external environment of an organization);
- communicative value (ability to professional dialogue with representatives of different professional groups and different cultures in the implementation of the sales policy of the organization);
- business (the ability to be self-motivated, independent and risky innovative activities to ensure competitiveness in the market).

The study showed that one of the significant problems of modernization of higher economic education is searching for approaches to information and training specialists, contributing to their success in the market conditions, the effective solution of problems of the marketing system, through the creative use of computer technology.

An analysis of research in which the identified content, technology training economic profile and their conformity to the social order, the needs of employers for qualified specialists, has allowed to establish special importance for the success of the specialist in the economics of their ability for automated analysis and processing, computer modeling and design, which confirmed the relevance of the chosen topic.

Based on the results of the research problems of improving the standard of vocational training specialists of economic profile in modern conditions in the context of competence-based approach, it is proved that its information professional competence lies in the ability to update information knowledge and skills in the process of solving professional problems in the economic sphere. The study identified didactic and organizational-pedagogical conditions of formation of this competence in the high school.

Pedagogical aspect of the problem of formation of information and professional competence of specialists of economic profile, is primarily concerned with ways of improving the educational process in the high school, namely, to strengthen the informational component in the content of training of specialists in marketing, development, and implementation of information technology to ensure the accelerated development of the above-mentioned components, the design of the special information and didactic information and creative environment in the school.

The results of the problem analysis of the quality of professional training of specialists of economic profile in modern conditions served as the basis for constructing the model of a successful economist, in which, on the basis of correlating the requirements of the standard training of economists and the results of expert evaluation by employers practical activity of the graduates were selected knowledge, skills, abilities and personal qualities that are most important for successful professional activity. In the model selected such personal qualities of a successful specialist economic profile: erudition, initiative, responsibility, initiative, information competence, creativity, social activity and interpersonal skills.

In experimental design conditions the formation of specialists of economic profile information and professional competence of the authors formulate the principles that determine its value-conceptual framework: the principle of professional orientation training, meaning the selection of the content and structuring on the basis of spiral deployment of

the basic elements necessary for the formation of professionally significant for the specialist competences; the principle of informatization of the educational process, providing efficient use of modern means of computer technology-oriented psycho-pedagogical learning objectives at the expense of professional and creative mastery of the information.

Leading ideas, clarifying, these principles are: the use of information technology learning both the computer science and a number of general professional and special disciplines of program blocks, that are specially organized reflection is built so the learning process to master the competencies associated with the information aspect of knowledge, to develop information and intellectual abilities and capabilities of self-organization in addressing educational and professional tasks involving information criteria and tools; profile integration of learning content based on the selection in the activity of specialists of economic profile characteristics, integrating professional and information competence, and providing for appropriate interdisciplinary synthesis of professional and general studies; creation of a special education resource that integrates a large amount of structured information within the scientific and educational subjects, which have the same styling and a single set of services for online access to information resources; involvement of students in the creation of innovative information the educational environment at the high school by attracting them to implement research projects related to this issue, as well as a special organization of practical training on the basis of the institution, providing for the participation in business projects.

It should be noted that the selection as a special integrative learning objectives of the formation of information and professional competence due to specific economic activities. This achievement was made possible thanks to the use of information competence-oriented learning technologies and the creation of a special education resource that integrates a large amount of structured information for research and educational topics with a single styling and a single set of services for convenient access to the information view and manage their content.

Thus, it is fair to consider the hypothesis of the study confirmed, and the purpose of the study was reached.

Among the problems that require further theoretical and experimental solutions can be identified as follows:

- the definition of a methodological framework for the development of continuing education programmes of specialists in the context of competence approach in the framework of academic mobility;
- development taking into account peculiarities of the phenomenon of "successful specialist" at new effective forms of interaction between universities and employers in the professional training of specialists;
- identify the dependences of the characteristics of the educational process in the high school from the state of the organization of Information and professional environment.

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