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The Professional Competence Formation in the Training Process in Higher Educational Institution

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ABSTRACT

The article is devoted to the problem of professional competence formation in the specialists' training process at the university in contemporary socio-economic and socio-cultural conditions originating in the Republic of Kazakhstan. The emphasis is laid on new scientific and pedagogical approaches to its solution. Special attention is paid to the issue of professional competence formation in extracurricular activity, especially, during job training: approaches' specification to the job training organization and conduction, the development of results' forecasting skills in students, the strategy elaboration for solving both educational and practical tasks. The analysis of domestic and foreign literature is performed on the research problem. In general, it shows that the relevance of this problem is determined not only by social order, but also by the student's needs in self-determination and self-expression. Special attention of foreign and domestic researchers indicates a lack of knowledge on the problem of specialists' professional competence in the university training process, and contradictions between educational institutions' need in competent specialists and their insufficient theoretical and practical training. The developed system of professional competence formation in future specialists consists of four components: target, activity, informative and effective, which allow considering the students' professional practice as the most important element in the highly qualified specialists' training.

KEYWORDS
Professional competency, specialists' training, scientific and pedagogical approach, professional competence, job training

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Introduction

The relevance of professional competence formation in the specialists' training process is determined by socio-economic and socio-cultural changes occurring in Kazakhstan. At first, sufficient attention is paid to the formation and development of experts' professional competence, although the task of finding new scientific and pedagogical approaches to its solution is still urgent.

In particular, the practical learning enables students to develop the constant need for new theoretical knowledge and practical experience to solve the issues of modern pedagogical science and practice. One of the problems is the professional competence formation in extracurricular activity, especially, during job training. For this reason, it becomes urgent to develop specific approaches to the job training organization and conduction with the purpose of specialists' professional competence formation, for instance, to form the results'

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forecasting skills in students and the strategy elaboration for solving both educational and practical tasks.

One of the priority fields is the provision of methodological practices on job training aimed at identifying optimal conditions for the transformation of educational activity into professional (Boud & Molloy, 2013).

The relevance of the above mentioned is determined not only by social order, but also by the student's needs in self-determination and self-expression in conditions of deep economic and socio-cultural changes and the Kazakhstan education integration into the global stage.

In particular, the professional competence formation in a future specialist during practical training is interconnected with the educational projects' system introduction, which includes: integration of personal, professional, financial, technical and educational resources; competent specialists' innovative training in the specific environment; the scientific projects' adaptation to the specifics of practical and innovative learning processes.

In this case, the analysis of the future specialist's professional practice has practical importance. It teaches to learn from their own activities, observations and perceptions, to reveal the vital importance of the studied objects, to comprehend the principles of their actions and apply them in new situations. In addition, it creates the necessary social environment that stimulates self-improvement, self-development and personal fulfillment.

General education sphere worked with the basic units – knowledge, abilities and skills. Professional sphere worked with other units – competencies. In this context, the profession requires the competence and competency of the person. For this reason, professional sphere operates with competencies, and education – with knowledge, skills and abilities. Therefore, when professional sphere exactly formulates its claims to education, the challenge of education is to restructure the knowledge, abilities and skills into specific competencies required in the professional field. The Council of Europe introduced many competencies; however, each country identifies certain competencies based on its own priorities and interactions with the professional field (Vasiutina, 2016).

The pedagogical system of professional competence formation in future specialists consists of four components in terms of job training: target, activity, informative and effective. Such system allows organizing and conducting the students' professional practice at the legal specialties as the most important element in the highly qualified specialists' training, contributing to the consolidation of theoretical knowledge, acquisition of practical skills in representative, executive and judicial bodies of the Kazakhstan Republic.

Kazakhstan universities have joined the Bologna process, and this means that for Kazakhstan, as for the European higher education systems, the development of new competence-based educational outcomes that go beyond professional knowledge is urgent.

In this regard, a comprehensive approach to solving the problem of professional competence formation in the specialists' training process at the university is a topical issue in any academic discipline, as the students, universities (faculties, departments) and lecturers choosing a particular educational strategy could serve as the subject. Therefore, particularly important is the fact that in Kazakhstan special attention is paid to improving

the training quality of highly experienced and competitive personnel for all economy sectors and the training conditions' creation of highly qualified lecturers of the new formation, able to work in conditions of innovative transformations, progress and education informatization.

Background paper

Special attention is paid to the development of job training basic attitudes and functions, specification of its components, as well as the system development for monitoring the job training quality (Syzdykbayeva, 2015).

At the same time, the future specialist's integration in professional activity depends on his personal qualities, professional competence, experience and professionally important qualities. On the other hand, it is also determined by the object peculiarities, activity sphere, the profession and a specific professional activity, which determine the content, direction and timing of learning and the means and methods of training. That is why young professionals during the school practice should be able to make a person-centered educational program for students; to establish intra-, interdisciplinary and cyclic connections between the disciplines; to design modular and specialized organization of the educational process; to determine the most rational educational forms, methods and technologies (Zimniaia, 2005).

Attention is devoted to practical work on implementing and controlling the pedagogical system efficiency of students' professional competence formation in "job training" conditions. The development and implementation of pedagogical system of students' professional competence formation in "job training" conditions is presented, including target, activity, informative and effective components. The possibilities of the developed information-didactic complex application in order to form special professional competencies, particularly in future lawyers (Davletkaliev, 2015).

Practical training gives the opportunity to develop in students a continuing need for new theoretical knowledge and practical experience, to teach them how to use all the theoretical knowledge acquired at university, and at the same time, to learn the advanced experience of the best teachers and trainers in order to develop their professional competences (Baydenko, 2006).

Effective solution of the aforementioned task depends on the educational process organization at the university and practical training, as well as on the effective integration of theoretical and academic training.

Formation of professional competence of a future specialist during practical training provides a focused system implementation of educational projects (Kulikova & Kulikov, 2012). Projects include: creation of hi-tech environment based on the integration of personal, professional, educational, financial and technical region resources in the campus; implementation of competent

specialists' innovative training in the specific environment; scientific developments' adaptation to the specifics of practical and innovative educational processes in the campus practical training (Davletkaliev, 2015).

The project activities' results confirm a relatively high level of professional competence formation of future specialists (Kulikova & Kulikov, 2012).

Many authors agree that competence is a complex concept. In various studies, the different interpretations of this category are emphasized, especially when information competence is a key factor in the specialist's life (Miroshnichenko, 2016; Mikheeva, 2011).

The specialist's information competency is the ability to handle information, i.e. to carry out search, analysis and selection of necessary information (Garayeva, 2006).

While analyzing the problem of specialists' professional competence development during the study, D.K. Davletkaliev (2015) emphasizes that the study of this issue is based on the study of psychological and pedagogical approaches to the concept of social specialists' professional competence, as well as the training role in the additional education system.

The study of this problem has identified the main professional competences, in particular, special, communicative, analytical, reflexive, motivational, personal and social development.

The specificity of educational space was taken into account by using effective approaches, technologies and forms of adults' education in further education and concretization of its influence on the professional competence development.

A.D. Syzdykbayeva (2015) has explored questions of research competence formation in future teachers of lower grades in the course of professional training. Her research presents the structural and functional model of research competence formation in future teachers of lower grades in the training process. This model includes a set of interrelated and interdependent structural components: purposive; substantive; procedural; evaluation of the effective structural components. The researcher describes a variety of pedagogical conditions, means and stages of research competence formation in future teachers of lower grades in the course of their training.

A peculiarity of the model presented in L.Jr. Spencer and M. Spencer (2005), is that listed basic individual qualities are shown in a specific development and influence on each other. Those qualities were defined by the authors as five basic types of qualities: motives; psychophysiological characteristics; self-concept; knowledge; skills.

According to I.A. Zimniaia (2005), the following provisions can serve as the basic principles for the creation of such idealized models:

– socio-professional competence as an integral personal quality is based on a certain development level of intellectual and cognitive actions;

– a set of required personal qualities to implement the professional activities of a person.

Research by Kargina E. (2015) is dedicated to the formation of professional motivation in future specialists in the conditions of a regional educational complex. According to the scientist, the motivation plays a leading role in the

organization of the personality structure because it is the driving force of activities. The problem of professional motivation formation in the future specialist is considered to be the effect of specific motives, which facilitate choosing a future profession, and sustained performance of professional duties.

According to A.L. Mirzagitova & L.G. Akhmetov (2015), the relevance of this issue is connected to the situation of the present pedagogical education in Russia – lack of a clear understanding of the schools' perspectives and the requirements to the modern teacher. In pedagogical universities, this problematic situation led to the loss of perspective.

Perceived level of cultural competence for school social workers was analyzed by M. Teasley, A. Archuleta & C. Miller (2014). The basic strategy of his work is focused on the examination of the relationship between social work educational programs for postgraduate professional development, school social workers, and levels of cultural competence in the practice of urban minority youth.

S.Y. Tang, A.K. Wong, M.M. Cheng (1998) has studied the training of motivated and professionally competent teachers of primary teacher education. The author analyzed the different systems of education and concluded a need to attract highly motivated people to become teachers.

Aim of the study

Uncover the scientific and pedagogical direction on the disclosure of objective mechanisms for professional competence formation

Research question

What is professional competence?

Method

We used a range of complementary methods including:

– Theoretical methods: study and analysis of special psychological-pedagogical and scientific-methodical literature on the problems of the study; theoretical methods of analysis, synthesis and theoretical modeling.

– General logical methods. The study and generalization of pedagogical experience on the research problem, conceptualization of educational practice.

– Empirical methods. Experimental work on the use of developed pedagogical system of information-didactic complex in the pedagogical process.

Data, Analysis, and Results

The research was focused on the practical work on implementing and testing the pedagogical system effectiveness for the students' professional

competence formation in job training conditions. The development and results of the pedagogical system implementation for the students' professional competence formation in job training conditions is presented based on information technology, including target, activity, informative and effective components.

The target component reflects the specifics of organizing and conducting the professional practice of future specialists.

Activity component includes: the interaction of the participants in job training and set of functions implemented by this type of students' activity. Among the leading functions implemented by job training are: informational, mobilization, organizational, communication, constructive.

A substantial component of pedagogical system for the students' professional competence formation is presented by the information-didactic complex.

In particular, the possibility of using already proven in other studies information-didactic complex was analyzed for the special professional competencies' formation, particularly in future lawyers (Davletkaliev, 2015).

Today, the term professional competence means the ability to act successfully on the basis of practical experience, skills and knowledge while solving tasks of professional activity (Boud & Molloy, 2013).

Professional competence should be distinguished from the general (universal, cross-professional) competences, which are defined as the basic quality of an individual, which influences his effective carrying out of tasks in certain situations (Boud & Molloy, 2013).

Professional competence is the ability of an employee to perform work in accordance with the requirements of the position, and job requirements are tasks and standards of their performance, used by your organization or industry.

The increasing interest to the technology of professional (technical, special) competences' management is related to the fact that innovative orientation leads to a large number of unique, corporate management technologies, which should be maintained at a high level (Boud & Molloy, 2013).

Professional competences are the main parameter that estimates the human and structural capital of the company. Since the intellectual component is a key to the company's success, the governance practices of professional competence becomes a key managerial discipline, through which the company could not only survive in the market, but also influence its development (Voronina, Ivanova & Ratner, 2013; Boud & Molloy, 2013).

Among the main criteria of professional competence formation, there are (Trede, Macklin & Bridges, 2012):

– the ability to understand, summarize, store, and use knowledge;

– ability to learn and to master modern knowledge, both in team and independently;

– ability to use obtained theoretical and practical knowledge for solution of set tasks;

– ability to receive and process observation data using existing methods;

– ability to work with methodology, scientific-technical, reference and normative documentation, reports, and other additional materials, and to prepare them;

– ability to effectively present ideas, solutions and research results;

– ability to work in a team, solving collective problems;

– ability to creatively develop educational-methodical complexes on disciplines;

– ability to analyze and determine new information technologies adequate to support the educational process;

– ability to promote and develop personal and professional competence, making contribution to the development of specific subject area (Teasley, Archuleta & Miller, 2014).

Training of specialists that meet the current needs of employers, entails the search for innovative methods of students' professional training. Approved innovative approach is seen as a mechanism that creates a real purpose for the modernization of students' professional training in the framework of the competence-based innovation paradigm (Voronina, Ivanova & Ratner, 2008).

In addition, the sequence and system of practices were determined that characterize the efficiency of the pedagogical system developed for the formation of students' professional competence in conditions of job training. The possibilities of information-didactic complex application is determined for the formation of special professional competence in future lawyers. The results of experimental work are presented on the use of developed pedagogical system in the pedagogical process.

The structure of the ongoing pedagogical experiment included two stages:

1. ascertaining experiment (2010-2012 academic years);

2. educational experiment (2012-2014 academic years).

According to the rules of the pedagogical experiment, its ascertaining and educational stages had common features, which include: the equation of the experimental conditions on a number of parameters, preparation of experimental materials, statistical processing of the results and subsequent conclusions.

Conduction of the ascertaining experiment allowed us to establish the actual state of the object, to fix initial parameters of the investigated object, acting as a basis for conducting an educational experiment. In the course of the ascertaining experiment the following statistics were obtained, which were divided according to selected criteria, indicators and levels. Summarized data of ascertaining experiment on selected groups of criteria and indicators is presented in Figure 1.

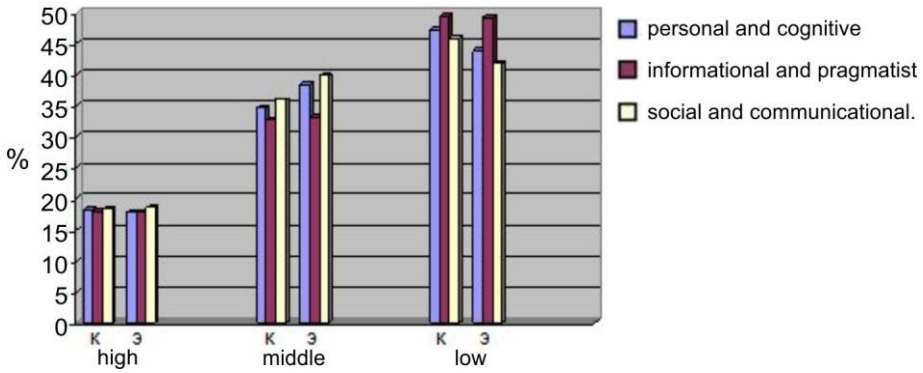

Figure 1. Summarized data of ascertaining experiment (%)

It is revealed that the experimental and control groups are similar in professional competence formation levels.

Summarized data of educational experiment on selected groups of criteria and indicators is presented in Figure 2.

The obtained results demonstrate the process implementation effectiveness of job training organization and conduct of developed pedagogical system for the formation of students' professional competence based on information technologies.

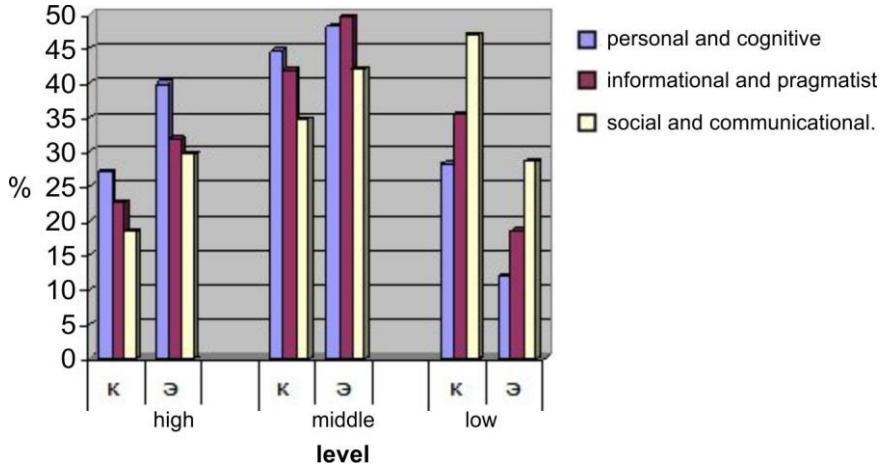

Figure 2. Summarized data of educational experiment (%)

In conclusion, it should be noted that the result of the practical work was the experimental data generation confirming the effectiveness of our proposed pedagogical system for the students' professional competence formation in job training conditions based on information technologies to ensure the growth of professional competence formation in students at an average rate of 12.4%. Analysis of the data and their dynamics allows making a conclusion about the effectiveness of the information-didactic complex from the point of view of the level increase of professional competencies formation.

The efficiency of pedagogical system for the students' professional competence formation in job training conditions based on information technologies is confirmed by the implementation in the educational process.

Discussion and Conclusion

O.V. Danilova, N.D. Zinnatullina and G.R Timerbaeva (2014) consider the possibility of students' professional activity structure formation through an interdisciplinary approach, and practical training increase. An interdisciplinary approach will enhance the scientific and theoretical knowledge of the students, and practical classes will provide skill application of the theoretical knowledge, however, they do not consider components of these approaches: target, activity and effective components that will create the necessary motivation for students.

The developed pedagogical system has innovation features, it is the product of a philosophical and psychological-pedagogical science and confirms the presence of four major system components in its structure: target, activity, informative and effective.

Professional competence, thus, is considered to be the system of intellectual, psychological, moral and active (functional) competences of the specialist, reflecting the level of acquired knowledge, skills, experience, information congestion and other properties in a specific area of professional activity.

In this regard, the process of the professional activity structure formation should be fully respected in the framework of university educational and learning activities. The search for terms of this provision naturally leads to the conclusion that since the learning activity is significantly different from professional in motives, goals, subjects, activities, resources, results, it is necessary to seek ways and means of educational activity transformation into professional.

One such tool is job training, which, as part of the learning process, solves this problem, acting as a special socio-educational environment, performing cultural and social functions: speeds up the process of development and formation of student personality, subject and individuality, and provides the formation of spirituality, value orientations and moral principles.

Implications and Recommendations

Consequently, the obtained results allow making the following conclusions.

1. The theoretical and practical nature and content of the process of professional competence formation in future specialists is presented. It is shown that job training is dominant in the formation of professional competence in future specialists.

2. It was identified and confirmed that in modern conditions of educational process development in high school, it becomes necessary and mandatory to implement information technologies in the process of organizing and conducting practical training for students.

3. On the basis of information technologies, the pedagogical system of professional competence formation in future specialists during the job training was developed. It includes four components: target, activity, informative and effective, which allow considering the professional practice of students as the most important integral element in the highly qualified specialists' training.

Based on the findings, the following recommendations were formulated:

– to recommend the pedagogical system introduction of professional competence formation in future specialists during the job training;

– to recommend the use of the information-didactic complex as an innovative methodological framework for the organization and conduct of job training as the basis of professional competence formation in future specialists.

Disclosure statement

No potential conflict of interest was reported by the authors.

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