FORMING INFORMATION COMPETENCY OF FUTURE TEACHERS IN THE FRAME OF PROFESSIONAL PEDAGOGICAL ACTIVITIES

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In article results of the scientific research devoted to studying of a problem of training of future teachers in the conditions of education informatization are stated. Using a method of the analysis of theoretical sources, the author focuses attention to relevance of informatization of education, vocational training of future teachers of chemistry, formation of their information competence of professional activity.

Key words: information competence, information technologies, informatization, professional activity.

The law «On Informatization» defines: «technologies are technological complex of technical equipments directed to collect, process, establish, save, compile, search, issue, copy, give and spread the information, data, methods, industrial process and collection of program» [4]. Academician A.P. Ershov in his researches gives the definition of «informatization» in the following way: «informatization it is a measure tool with the social meaning, reliable, complete and available to use the knowledge timely» [3].

The scientific research works of I. Robert determine the following principles of pedagogical use of the new information technology tools:

1) on the basis of the information technologies to update all levels of the educational process:

— improve the effectiveness and quality of the teaching process;
— improve the cognitive activities;
— deepen the inter-subject relations;
— expand the volume and effectiveness of necessary information search

2) development of the student's personality, self-preparations to the information society life conditions:

— develop different thinking abilities;
— develop the abilities of connection ways;
— introduce the decisions of difficult situations;
— aesthetic educating using computer graphics and multimedia technologies;

— data processing and establishing information culture;
— ability to develop modeling the situation or problem;
— maintaining to realize experimental research activities.
3. Service of social order of the society:
— train the informative educated person;
— train the customer with the computer tools;
— realizing the professional oriented activities in the information sphere [14].

According to of E.N. Paskhin: Informatization of education is urged to become «the catalyst of process of informatization of society, formation of information culture of the person» [13].

Informatization of education is introducing the information communication technologies in all spheres of education system, use them, develop the national model of educating, increase the education quality and realize the possibilities of psychological-pedagogical upbringing principles [9; 15].

The aim of the professional educational institutions in the traditional educational system at all times was to master only the professions, at the present time it is a bit different. Nowadays, in order to prepare a competitive individual penetrating into the world educational space we need to offer an educational system that has results. It is obvious that preparing a competitive individual is based on *competence* abilities of a person. Recent penetration of the notions of «competence» or «competency» means the unity of personal qualities and knowledge, skills, experience. In most literature we notice the common use of such terms as «information competence» and «computer competence».

The periods of formation of the above mentioned notionsare found in the works of the following scholars such as V.A. Bolotov, O.Y. Zaslavskaya, D. Sh. Matros, N.F. Talyzina, T.I. Shamova ([1; 5; 10; 16; 18] and others). V.M. Shepel includes the theoretical applied preparation into the definition of *competency* that is important in using knowledge, qualification and experience [19]. Let's give an explanation of the definition of the notions «competence» and «competency». Competence is a specialist that has rights to make decisions on a certain professional field. Competency is the ability of the specialist that has knowledge, qualification and skill on a certain field and is able to carry out all them [17].

R.S. Омarova in her researches has pointed out several competences (its value comprehension, common cultural, cognitive teaching, informative, communicative, social service, individual's self development). Among these competences the informative competence is the creative using skill of the student of a certain discipline and the information about the world as well. With the help of different kinds of sources (television, audiocassette, telephone, computer) and also information technologies (video, cassette, electronicmail, Internet) their investigating skills will develop and they will learn to analyze, to explore, to evaluate, to keep and to issue information [12].

The teaching, educating and upbringing the contemporary student needs some requirements, it is forming an individual that has certain competences. They are:

— valuable directed competence (civilian activeness, understanding the political system, the ability of evaluating, loving one's country);

— culture cognition competence (differentiating the national peculiarities, comparing the culture of his own nationality and other nationalities, comparing culture of the world, being able to analyze them);

— cognitive teaching (organize his/her own educational ability, to plan it, to improve investigating skills, analyzing, being able to make conclusions);

— the communicative competence (being able to use communicative methods with people, having the communicative skills of the Kazakh language as the state language, the foreign language in international relations);

— the information technology competence (being able to work with the help of information technology and the technical objects, self investigation, the ability of selecting, analyzing, the ability of carrying out the change);

— social labour competence (being able to analyze the social events, making solutions, being able to impact on himself due to the society interests in different life conditions);

— the competence of the individual's self development (family labour, having the active knowledge and experience in the field of economic and political and social relations) [6].

The development of students' competency qualities requires comprehensive educational competences of teachers. The teacher has the opportunity of forming the students' competence only in that case when he/she offers the tasks that the individual would be able to use it in life. Accordingly, the teacher should devote himself / herself to his/her profession and has the correct project of his own professional development.

M.B. Lebedova, O.N. Shilova point out the components of the professional information competence [11]:

— searching and joining the extra information in order to use the Internet resources in teaching;

— giving teaching information with the help of different kind of computer equipments;

— to participate in the Internet-conferences and in other activities to improve his / her professional level;

— to establish computer teaching and to show teaching information through standard equipments and aids;

— to make up computer tests with the help of standard appendixes and special programmes;

— to make reiting grading of the students' knowledge with the help of standard appendixes;

— to establish base data for teaching with the help of standard appendixes and special programmes;

— HTML-editors, with the help of standard appendixes and aids to make electronic coursebooks and materials and to establish individual internet resources for teaching;

— to be able to use the ready multi-media aids in teaching and educating;

— management of educational process with the help of standard appendixes and special programs.

The definitions of the notion «information and communicative and technological competency (ICT)», requirements for the ICT and different techiques for identifying the formation levels of teachers' ICT competences are thoroughly considered in the works of L.N. Gorbunova, E.Y. Kulik [2; 8].

K.K. Kolin: «information competence of the teacher» shows the level of information usage in learning. Present educational specialists need to master the following informative-communicative competences [7]:

— using the opportunities of informative-communicative technologies as the effective methods of searching information and keeping them;

— mastering the skills of working with different kinds of the computer information;

— having the skill of information search in the Internet;

— mastering the skills of organizing lessons and out of class lessons using computer and interactive technologies;

— taking into account the peculiarities of the Internet-technology, mastering the skill of using them in the exact courses.

M.P. Lapchik: «The teacher's information competency is a special type of organizing the subject knowledge that gives the opportunities of making the effective decisions and shows the level of using the Internet and information technologies in the educational process and professional action» [9].

Due to this author the following *elements* are related to the formation of the teacher's information competency:

— working ability with the different base data at school and the preparation;

— the ability of using ICT in the educational process;

— to organize the individual methods and the preparation and the ability of systematizing the taken data;

— working cooperatively with the staff using new information technologies.

The following elements of the formation of the future teachers' competency that has knowledge, qualification and skill have been defined: searching the information and collecting; keeping the information; processing the information; spreading the information. In the structure of information competence of future teachers of chemistry, emerging in teaching at the university, there are three main components: the base (information and computer-based), domain-specific (chemical) and subject-methodical (chemical and methodical). Let's characterize each of the components.

Basic (information-computer) component is the basis of the information competence of future teachers of chemistry. In the aspect of content it includes knowledge and skills of using computer technologis as means to obtain, transfer, storage and use of information that actually describes the concept of «computer literacy». The main contribution to the formation of the base component of information competence of future chemistry teachers make school and university informatics courses, and further improvement occurs in the study of general school and university special subjects.

Subject-specific (chemical) component of information competence is formed by the students' study of chemical disciplines. It is based on the use of ITs in the

knowledge of the basics of chemistry in the context of future careers and includes theoretical and methodological context-pedagogical and special-computer components.

Subject-methodical (chemical and methodical) component of information competence is formed by high school students'study course, teaching methods of Chemistry and chemical-methodical special courses, based on previous psychological and pedagogical training. It is directed to the development of techniques and the use of electronic means of IT in the professional work of the teacher of Chemistry and includes the general methodological and especially methodological components. Information competence of future teachers of Chemistry is formed in the process of studying university computer science courses, psychological and pedagogical, chemical disciplines and methods of teaching Chemistry.

Competence approach to chemical-methodical preparation of students of Chemistry in the context of the idea of education informatization has caused the need of forming information competence of future teachers of chemistry, which should be regarded as its readiness to use IT in all kinds of professional and educational activities.

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ФОРМИРОВАНИЕ ИНФОРМАЦИОННОЙ КОМПЕТЕНТНОСТИ БУДУЩИХ УЧИТЕЛЕЙ В РАМКАХ ПРОФЕССИОНАЛЬНЫХ ПЕДАГОГИЧЕСКИХ ДЕЙСТВИЙ

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В статье излагаются результаты научного исследования, посвященного изучению проблемы подготовки будущих учителей в условиях информатизации образования. Используя метод анализа теоретических источников, авторы акцентируют внимание на актуальности информатизации образования, профессиональной подготовки будущих учителей химии, формирования их информационной компетентности в профессиональной деятельности.

Ключевые слова: информационная компетенция, информационные технологии, информатизация, профессиональная деятельность.