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PEDAGOGICAL AND PSYCHOLOGICAL FEATURES OF THE DEVELOPMENT OF INFORMATION COMPETENCE IN FUTURE TEACHERS

Abstract: *The article examines the views of a number of scientists on the formation of information competence, the issue of training future teachers as professionals capable of developing students' information security skills.*

Key words: *Competence, information, future teacher, information security, information consumption culture.*

Language: *English*

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Introduction

Global informatization encompasses social, economic, political, industrial and other spheres, as a result of which information security becomes an important part of politics as an integral part of overall security in the world. Along with the expansion of relations in the field of informatization, new social relations aimed at preventing crime in this area - information security - have become one of the most pressing problems. At the same time, it is significant to introduce training technologies to ensure information security in the practice of training in higher education. In particular, it is necessary to make comprehensive use of best practices in the formation of professional competence in information security.

According to international pedagogical experience, the design of the educational process aimed at preparing future teachers for professional activities and increasing their professional competence, the creation of a science-based system of implementation remains relevant. The level of professional competence of future teachers depends on the level of pedagogical knowledge, knowledge of information security (storage, selection of professionally important information, information security, commercialization of scientific

developments, protection of enterprise or state secrets) and ICT (information and communication technologies). evaluated. Therefore, the development of a methodology for training future teachers to ensure information security in the preparation for professional activities is one of the urgent tasks.

The Main Findings and Results

In our country, a regulatory framework has been created for the spiritual image, the scientific potential of teachers, the development of science and innovation, the introduction of digital technologies in education. The Action Strategy for the further development of the Republic of Uzbekistan identifies priorities as "further improvement of the system of continuing education, increasing the capacity of quality educational services, continuing the policy of training highly qualified personnel in line with modern needs of the labor market" [1]. As a result, today's global changes have expanded the opportunities for training teachers with a wide range of thinking and information competence.

The historical roots of the issues of competent approach are reflected in the works of Eastern thinkers Abu Rayhan Beruni, Abu Ali ibn Sino, Abu Nasr Farobi, Abdullah Avloni. In our historical heritage,

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many opinions have been expressed on the importance and significance of the idea of focusing on the acquisition of competent knowledge in the development of society.

O.A.Abdullina, E.M.Borisova, L.S.Vygotsky, E.F.Zeer, A.N.Leont'ev, M.I.Lukyanova, A.K.Markova, S.L.Rubinstein and others In their scientific work, they put forward noteworthy ideas about the formation of information competence in future teachers of vocational education, the psychological and pedagogical basis of preparing them for the acquisition of information skills. O.Abduquddusov, R.X.Djuraev, U.I.Inoyatov, Z.K.Ismoilova, N.A.Muslimov, N.Nishonaliyev, Q.T.Olimov, H.F.Rashidov, O.Tolipov, A.R.Khodjabaev, D.O.Khimmataliyev, Sh.C.Sharipov and others in their research have scientifically and methodologically analyzed the formation of knowledge, skills and abilities of future teachers to receive information, training qualified personnel.

An individual's information competence is directly related to the process of informing society. The exponential growth of information affects society and leads to its informatization. Based on the information, a personal computer, tens and hundreds of gigabytes of optical disks, optical communication channels, video communication systems, methods of presenting data and knowledge, e-mail systems, etc., which allow to store the contents of entire libraries in a compact form such as fundamental discoveries. All techniques ensure the creation of a highly automated information environment, and it theoretically allows the introduction of voluntary knowledge at any time, in any place. Accordingly, education should provide people with the new competencies to live in a new information environment, including the widespread use of modern information technology in education, as well as the formation of new competencies needed to understand the new holistic world and the information worldview.

As the American educator F.S. Schlechlin points out, "students who successfully complete the basic course of the school curriculum learn to apply their knowledge in familiar situations, earn a diploma, but do not know how to work independently with information and acquire knowledge, succeed in the information society". Therefore, information competence is one of the main advantages of modern general education purposes. In her work, N.A. Morozova emphasizes the need to form different basic competencies at different ages of personal development (for example, in the preschool period - primarily personal and communicative; in the school period - general, educational, informational, communicative; in the period of vocational training - valuable, competencies to live in a multicultural, socio-labor, information, communicative, political and social, multicultural society, competencies that enable the ability and desire to learn throughout life)

[2]. But there are also a number of competencies that need to be formed throughout a person's life. Such competencies include information competence.

The concept of information competence is not clearly defined and reinforced today. The authors differ in their interpretation of this concept. Currently, there are a number of works in which the term "information culture" is used, which, in our opinion, refers to information competence, in some studies the authors use the terms "information competence" and "information culture" as synonyms.

But these concepts need to be differentiated. In the work of B.S. Gershunsky, the stages of the level of educational outcomes are defined, which are as follows: literacy - knowledge - professional competence - culture - mentality [3].

In the above-mentioned work of B.S. Gershunsky, culture is "the highest expression of human knowledge and professional competence. It is at the level of culture that human individuality can be fully expressed" [3; 85-p.].

There are many approaches in the literature to define the concept of "information culture". An analysis of the literature allows us to draw conclusions about the versatility of this concept. From the point of view of the cultural approach, culture is considered as an organizer of the general culture of the person, as a way of life activity in the information society, as a process of harmonization of the inner world of the person.

According to N.I. Gendina, an important link that "unites" all the components of information culture is the information worldview, which includes "generalized views on information, information resources, information systems, information technology, informatization, information society and its place in it, people's attitudes to the information environment their views, ideals, knowledge and principles of action related to these views" [4].

In the narrow sense, information culture is seen as the ability to work with information purposefully and the use of new information technologies to obtain, process and transmit it, i.e. to carry out information activities aimed at meeting information needs. In this case, in our opinion, it is appropriate to say about information competence.

Let's look at what different authors contribute to the content of the concept of "information competence". O.N. Krilova and T.G. Galaktionova argue that information competence can be considered as the ability of an individual to independently search, select, analyze, organize, express and convey information [5].

O.G. Smolyaninova also interprets information competence as "a universal method of searching, receiving, processing, expressing and transmitting information, generalizing, systematizing and transforming information into knowledge" [6; 161-p.].

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Under information competence, L.G. Osipova understands “the ability to target in a wide, rapidly updated and growing information space, to quickly find the necessary information and include it in their system of activities, to use it to solve practical and research tasks” [7; 25-p.].

V.I. Nazarov and L.V. Kuklina consider information competence as the ability to receive and process large amounts of information using modern multimedia tools [8].

Under information competence, O.I. Kochurova understands the system of “computer knowledge and skills that provide the level of acquisition, processing, transmission, storage and expression of professionally relevant information required in a particular profession” [9; 4-p.].

Independent search, analysis and selection of information necessary for the competence of A.V. Khutorskoy, its transfer to real objects (television, tape recorder, telephone, fax, computer, printer, modem, copier) and information technology (audio and video recording, e-mail, Media, Internet) and organizes, reorganizes, stores and transmits skills. This competence “provides the student’s skills in the field of science and education, as well as with the information available in the world around” [10].

S.D. Karakozov believes that information competence is characterized by the ability of a citizen of the information society to have free access to information that is not a secret to him, as well as the ability to:

disclosure of personal information in an uncensored form;

ensuring the right to freely choose the source of information processing, provider, format, standard, software and technology;

to realize the existing opportunities in the society in relation to the production, transmission, distribution, use, copying, destruction of all information open to him, including personal information” [11; 50-p.].

V.G. Bilinkina information competence “knowledge of analytical methods of information processing; in specific skills in the use of various technical devices, from telephones to personal computers and computer networks; to use and receive information from different sources, to express it in an understandable way and to work effectively with its various manifestations in accordance with its psychological and physiological data; the ability to create new sources of information and make full use of ICT in their work” [12].

Information competence on N.H. Nasirova will have the following elements:

motivation, need and interest in acquiring knowledge, skills and competencies in the field of technical, software and information;

a set of social, natural and technical knowledge representing the system of modern information society;

knowledge that forms the information basis of research cognitive activity;

methods and actions that determine the operational basis of research-related activities;

experience in research activities in the field of software and technical resources;

Experience of “human-computer” relations [13]

In his research, O.A. Kizik interprets the information competence of vocational school students as “a set of knowledge, skills and abilities to perform various types of information activities and the quality of the person who introduces a valuable attitude to information activities” [14; 11-p.].

An analysis of the literature allows us to conclude that the concept of “information competence” is multifaceted. Significant features include an information worldview, theoretical knowledge in the field of informatics, knowledge, skills and competencies in information retrieval, analysis and use, practical skills and competencies in the use of modern information technology, active social attitudes and motivation of educational subjects.

The concept of “information competence” is studied by researchers in a narrow and broad sense. In the narrow sense, information competence is associated with the ability to use new information technologies, modern technical means and methods to search, receive, process, present and transmit information. In our opinion, information competence is not only the ability to use new information technologies to work with information, but also the implementation of analytical-synthetic processing of information, solving information-search tasks using the library as an information retrieval system, ie information activities using traditional technologies related to.

As previously noted, in recent years, the readiness of the graduate for professional activity is associated with the concept of general professional competence of the future specialist. The main directions of vocational education development are determined by the Bologna process, which studies the indicators of the quality of vocational education on the basis of a competent approach.

In the context of modernization of education, it is necessary to understand professional competence as an integral indicator of the quality of training of future teachers, which is not determined by a specific set of knowledge and skills, but represents a person’s ability to implement knowledge and experience. A teacher’s professional skills include a variety of competencies, including information competence.

It is known that in modern conditions a teacher's information competence determines his professional pedagogical competence in general.

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In the structure of professional competence of a teacher O.G. Smolyaninova distinguishes the following competencies that determine the level of readiness for independent work in an open educational environment:

informative (as universal methods of searching, receiving, processing, presenting and transmitting information, generalizing, systematizing and transforming information into knowledge);

Modeler (as a developer of universal research, understanding and logical thinking);

control-assessment, gnostic (qualitative and quantitative assessments, self-assessment, “portfolio” approach);

Mobile (as a management, organizational, constructive integration);

culturally valuable (including views such as the acquisition of cultural and intellectual values that serve the implementation of the principles of civic education);

Communicative (promoting socialization, development of communication skills, effective communication, cooperation, self-education in an open educational environment, living in a multicultural society, tolerance)”[15; 161-p.].

Based on the opinion of O.G. Smolyaninova, the concept of “teacher’s information training” includes knowledge and skills in the basics of information technology necessary for her future career, knowledge of the main types of teacher documents and publications in the field of education and sources of scientific and pedagogical information. - have an idea of the methods of systematic processing, information retrieval languages, methods of searching documents in libraries and databases. She must know how to use bibliographic catalogs, indexes and card indexes, understand the structure of books and dictionaries, create a bibliography on a particular topic and create a bibliographic database on the problem studied with the help of a computer. [15; 167-p.].

In the context of informatization of education, the teacher must know how to use new information and communication technologies in order to increase the effectiveness of the educational process.

E.V. Ivanova considers the information competence of the teacher as a separate type of organization of special subject knowledge, which allows to make effective decisions in professional and pedagogical activity, as an organizational part of the teacher’s professional competence, which includes the following organizers of professional activity:

theoretical knowledge of the basic concepts and methods of computer science as a scientific science;

methods of presentation, storage, processing and transmission of information using a computer;

skills and competencies to work on a personal computer based on operating systems, utilities, settings in operating systems and the use of operating shells;

the ability to express information on the Internet;
Ability to organize students’ independent work using Internet technologies;

have the skills to use telecommunications technology, taking into account its specificity in a particular subject [16].

Thus, the author connects the teacher’s information competence only with computer literacy and the ability to use new information and communication technologies in the learning process.

In this case, the researcher considers that the list includes information and communication competencies that form the system, as they are the basis of information activities (the main form of activity in the information society), as well as for the development and use of information and communication technologies in professional activities.

S.R.Udalov considers the information competence of the teacher as “the ability to use information and information technologies for the purposeful work with pedagogical information and its reception, processing and transmission” [17; 105-p.].

V.A. Slastenin, I.F. Isaev, A.I. Mishenko and E.N. Shiyanov distinguish information skills in the structure of the teacher’s professional competence, which includes not only the ability to present educational information, but also the ability to work with printed sources and bibliography skills, the ability to obtain information from other sources and didactic transformation, ie the ability to interpret information and adapt it to the tasks of education and upbringing”[18; 48-p.].

According to the authors, in the process of communication with students, the teacher’s information skills are reflected in the following skills:

clear and concise description of the material, taking into account the specifics of the subject, the level of training of students, their life experiences and age;

construct and carry out a logically correct narrative, narrative, conversation, problematic narrative;

A harmonious combination of the use of inductive and deductive ways of describing the material;

formulate questions in an understandable form, concise, clear and expressive;

use of visual aids in teaching: expression of ideas using graphs, diagrams, schemes, images;

to quickly diagnose the nature and level of students’ mastery of new material using a variety of methods;

if necessary, reorganize the plan and course of presentation of the material [18; 48-49-p.].

E.I.Trofimova, studying the professional competence of the teacher, considers it necessary to complete the list of requirements for graduates of

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pedagogical specialties with information skills, including the following organizers:

related to science - knowledge of the principles of computer operation, basic concepts of computer science and methods of information processing;

user - work with basic views of the software;

evaluation is an assessment of the reliability of information from different sources in the information environment;

purposeful use of pedagogical and information technologies in the educational process [19; 61-p.]

Thus, the teacher's information competence is considered as a necessary component of his professional competence. Knowledge and skills in the field of computer science to differentiate the teacher's information competence; know the main types of documents and publications in the field of education; mastery of formal methods of analytical-synthetic processing of information; mastery of information retrieval methods in accordance with the needs of professional information; skills of interpreting information and adapting it to educational tasks; skills of presentation of educational information; skills related to the collection, processing, retrieval, storage and presentation of information using new information technologies and the Internet; to increase the effectiveness of the educational process, it includes organizers such as skills in the use of new information and communication technologies.

The nature of competence is such that it can be manifested only in harmony with human values, that is, in the context of a deep personal interest in this type of activity. Therefore, in addition to the cognitive (knowledge) and operational-technological (skills, experience) components of information competence, the individual has an internal motivation for quality implementation of information activities, the existence of a value-based approach to these activities.

To consider the current state of the problem of formation of teacher information competence, we refer to the methodical system of teaching as a set of the following hierarchically interrelated components to the popular approach of A.M. Pishkalo: purpose, content, methods, organizational forms and teaching aids [20].

According to B.L. Aleshina, the purpose of the formation of information competence (managed development) of future primary school teachers is individual information aimed at meeting the needs of professional and non-professional information arising during the educational, pedagogical, teaching, socio-

pedagogical and cultural-educational activities of teachers ability to perform its activities optimally [21].

Ya.Zlotnikova shows that in order to form the information competence of a future science teacher, the following tasks must be solved [22]:

to teach students the methods and techniques of working with a personal computer (if they have not mastered these methods);

to teach students the methods and techniques of working in the global computer network of the Internet, as well as in local computer networks (if they have not mastered these methods);

formation of students' skills in obtaining up-to-date information and methodical materials on disciplines using the Internet;

to teach students to create network educational resources, pedagogical software, methodological, didactic and organizational materials for the lesson - to master a wide range of ICT and learn to use them in various forms of in-class and out-of-class activities;

teaching students didactic, psychological-pedagogical and methodological methods that allow students to form information competence [22; Pp. 41-42].

In our research work, we proposed a special course called "Information Consumption Culture", aimed at solving the goals and objectives and developing information competence.

The research used observation, questionnaire, test, interview, project, expert evaluation methods, substantiating, formulating and concluding experiments, as well as methods of mathematical and statistical analysis.

Based on the analysis of our study, we identified invariant (common to all existing skills) and variable (professionally oriented) components in the teacher's information competence structure (the use of new information technologies in education by a number of variable constitutive researchers is associated with skills). Therefore, the courses "Information Technology" and "Information Consumption Culture" were conducted as a means of purposeful development of information competence of the future teacher, and their content is determined by the specialty of the future teacher.

The whole range of components is based on the technologies used - traditional or information and type of activity - subject-subject or subject-resource stratified and covers the types of information activities of varying complexity. The types of information activities allocated according to the criteria are expressed in the following table (see Table 1):

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Table 1. Information competence system for future teachers

Subject - resource activity	
Views of information activity with the use of traditional (printed) technologies	Views of information activity with the use of new information (electronic) technologies
Subject - subjective activity	
Views of information activity with the use of traditional (printed) technologies	Views of information activity with the use of new information (electronic) technologies

Today, education and upbringing should be future-oriented, given the rapid change of the “set” of knowledge and skills, not limited to the acquisition of knowledge and experience accumulated by humanity. New forms and methods of teaching are needed, which allow to cultivate in the student the need for constant independent learning, the formation of personality traits such as independence, activism, subjectivity.

Conclusion

Instead of a conclusion, we cite the following:

1. In the context of modernization of education, it is necessary to understand the achievement of professional competence as an integral indicator of the quality of training of future teachers, which is defined as the ability to apply the acquired knowledge and experience to solve problems in the field of education. specific situations. Teacher information competence is seen as a necessary component of professional competence.

2. The nature of competence is such that it can manifest itself only in a harmonious unity of human values, that is, subject to a deep personal interest in this type of activity. Thus, information competence, in

addition to the cognitive (knowledge) and operational-technological (skills, experience) components, presupposes the presence of an individual’s intrinsic motivation for the quality of information activity, a value attitude towards this activity.

3. Demonstrates the possibility of a significant increase in the effectiveness of the teaching process in the practice of professional pedagogical activities of teachers who make a selection of quality pedagogical software and apply them in accordance with the methodological objectives during the lesson.

4. The structure of a teacher’s information competence is divided into two blocks: basic knowledge and skills that are invariant in relation to the volunteer profession, and professionally oriented, special knowledge and skills for the teaching profession.

5. In the last study of the structure of information competence, the composition of this component is divided into two groups based on the generalized basis of information activity (subject-resource, subject-subject) and components based on the technology used (new information, traditional paper).

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