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Formation of Ethical and Axiological Competencies When Using Ict in Education

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ABSTRACT
At present, the concept of a competency-based approach to education is gaining ground, which is the basis of substantial changes to ensure that education meets the needs and capabilities of the public in the period of informatization and global mass communication. From the standpoint of the competency-based approach, the meaning of education is the development of the ethical and axiological abilities of students to independently solve problems in various fields and activities based on the use of social experience, an element of which is also the students' own experience. It is the competency-based approach that is determined by one of the foundations of the "Strategy for the Modernization of Education" - the main state document in the field of Russian education today and in the near future.

Introduction

Competence - the willingness to use the acquired knowledge, skills, as well as ways of working in life to solve practical and theoretical problems.

Competence - the level of personality skills, reflecting the degree of compliance with a certain competency and allowing you to act constructively in changing social conditions [1,11].

The introduction of information and communication technologies allows both to increase the efficiency of human activity and to make it more diverse. The creation, development and application of ICT in vocational education is determined by a number of positive factors [2,15]:

Firstly, the introduction of ICT in vocational training of students significantly accelerates the development of professional competencies and the accumulated pedagogical and technological experience.

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Secondly, the introduction of technology (ICT) improves the quality of education, develops professional competencies, and allows graduates to successfully adapt to the environment and the ongoing social changes.

Thirdly, the active and effective implementation of educational technologies (ICT) in the training of graduates is

an important factor in the process of reforming the traditional education system in the light of the requirements of a modern industrial society [3,12].

ICT in training and education of students is mainly aimed at achieving the goals:

- Organization of the educational process using ICT;
- The introduction of educational technologies in management activities;
- the formation of a database of educational resources;
- organization of leisure for students;
- creation of a single local network;
- organization of permanent access to information and communication technologies for students, teachers and executives [4,13].

A large number of teachers note that the use of ICTs allows to intensify the work of students in training sessions and increase cognitive interest through various forms of work in organizing activities using ICT tools [4,14]:

- individual work with the training system;
- Creation and use of presentations in training sessions;
- modeling: the use of ready-made models and the development of new ones;
- automatic testing systems;
- design method of work;
- game forms, contests, quizzes, participation in distance contests;
- the use of instrumental training programs; use of web technologies;
- Creation using Microsoft Office and the use of organization tools.

The development and improvement of the material base of educational educational institutions is ongoing:

- organization of permanent access to the Internet;
- updating the computer park;
- The library fund is updated with educational, reference and methodological literature.

An example of the use of ICT is the holding of subject decades, weeks, exhibitions, contests of professional excellence, video presentations, participation in video conferences, communication with other educational institutions, during the master class in the laboratory.

In this regard, ICT - competence can be defined as - a combination of knowledge, skills and experience. Willingness to use the acquired knowledge, skills, as well as ways of working in life to solve pedagogical problems using ICT tools and techniques, namely:

- carry out information activities on the collection, processing, transfer, storage of information resources, on the production of information in order to automate the processes of information and methodological support;

- evaluate and implement the capabilities of educational electronic publications and the educational information resource distributed on the Internet;

- organize information interaction between participants in the educational process and an interactive tool that operates on the basis of ICT tools;

- create and use psychological and pedagogical testing, diagnostic methods for monitoring and evaluating the level of knowledge of students, their progress in learning; carry out educational activities using ICT tools in aspects that reflect the characteristics of a particular school subject [5,16].

A teacher who uses ICT in his activities should be psychologically prepared for the continuous improvement of his knowledge.

In this regard, even within the walls of a pedagogical university, a future teacher must also develop professional

readiness for constant self-education and advanced training in the field of ICT.

The formation of ICT - teacher competencies must be carried out in the following areas:

- psychological (solving the problem of motivation and increasing interest, students);
- pedagogical (self-education and advanced training);
- methodical (substantiation of the tasks, content and principles of teaching this academic discipline);
- didactic (the formation of the optimal content of the training course);
- information technology (the formation and use of funds multimedia software training and education) [5,17].

Teachers who have gained knowledge in the field of new educational technologies need to constantly prove themselves in them, to have a professional environment for operational interaction.

This requires a comprehensive solution to issues such as:

1) continuous training in the use of ICT in education;

2) hardware and software update and maintenance of the equipment and information resources of the OS, technical support of ICT and providing access to the Internet;

3) information and methodological support of the pedagogical activities of teachers using ICT. This makes the issue of creating a continuous system of continuing education for teachers in the use of ICTs in the educational process through regular information and educational and methodological support during the inter-course training of teachers in the field.

The solution to this problem lies in a reasonable combination of full-time course training and independent work, studying on the basis of materials designed for distance education and posted on the global computer network Internet.

These tasks can be successfully solved within the framework of the methodological support system for advanced training of pedagogical personnel, which can be defined as an integrated set of measures, actions, resources, as well as managerial processes and influences.

The main goal of vocational education is to prepare a qualified employee of the appropriate level and profile, competitive in the labor market, competent, responsible, fluent in his profession and oriented in related fields of activity, capable of efficient work in his specialty at the level of world standards, ready for continuous professional growth, social and professional mobility; meeting the needs of the individual in obtaining appropriate education [6,18].

The most important direction in the implementation of the concept of modernization of Russian education is the training of new generation teaching staff and the formation of a fundamentally new culture of pedagogical work, the training of highly qualified teachers and the necessary information culture so that they are ready and able to apply new information technologies in the process of training and educational management . The introduction of information and communication technologies in the professional activities of teachers is a priority in modernizing Russian education today in connection with the introduction of new educational standards.

Professionally competent is such a teacher's work in which pedagogical activity, pedagogical communication is carried out at a fairly high level, the personality of the teacher is realized, good results are achieved in teaching and educating students. The development of professional competence is the development of the teacher's creative personality, the formation of readiness for adoption of a new one, the development and susceptibility to pedagogical innovations [1,19].

The following components of pedagogical ICT competencies can be distinguished: - general user competency; - general pedagogical ICT - competence; - subject-pedagogical ICT - competence in relevant subjects and educational fields. It is possible to determine the levels of ICT formation - competencies: - basic - an invariant of knowledge, skills and experience necessary for a teacher to solve educational problems using ICT. - subject-oriented - the development and formation of readiness for implementation in educational activities of specialized technologies and resources developed

in accordance with the requirements for the content and methodology of a particular subject [7,20].

The ability of a competent specialist to go beyond the scope of the subject of his profession allows us to define competency as the highest degree of readiness. A teacher who uses ICT in his activities should be psychologically prepared for the continuous improvement of his knowledge.

Teachers who have gained knowledge in the field of new educational technologies need to constantly prove themselves in them, to have a professional environment for operational interaction.

The process of informatization of modern society necessitated the development of a new model of the education system based on the use of modern information and communication technologies.

There are many programs, electronic textbooks, websites, publications, written and developed for teachers and teachers. A huge number of various courses on information technology offer their services to teachers.

Summing up, we found out that for the formation of basic ICT competency it is necessary [8]:

• knowledge of the functioning of the PC and the didactic capabilities of ICT;

• mastery of the methodological foundations for the preparation of visual and didactic materials using Microsoft Office tools;

• use of the Internet and digital educational resources in teaching activities;

• formation of positive motivation for the use of ICT.

And according to the new provision on certification, if a teacher does not own a computer, then he cannot be certified for the first or highest category.

To increase the level of ICT competence, the teacher can

• participate in seminars at various levels on the use of ICT in educational practice;

• participate in professional contests, online forums and teacher councils;

• use in preparing for lessons, on electives, in project activities a wide range of digital technologies and tools: text editors, image processing programs, presentation preparation programs, table processors;

• ensure the use of the collection of the Center and Internet resources;

• form a bank of training tasks carried out with the active use of ICT;

• develop their own ICT projects [8].

Conclusion The introduction of ICT in the professional activities of teachers is inevitable in our time. Professionalism of a teacher is a synthesis of competencies, including subject-methodological, psychological-pedagogical and ICT components. In the scientific pedagogical literature, many works are devoted to clarifying the concepts of "competence" and "competence". The use of ICT tools in the educational process is aimed at intensifying the learning process, implementing the ideas of developmental learning, improving the forms and methods of organizing the educational process, which ensure the transition from mechanical assimilation by students of actual knowledge to their mastering of the ability to independently acquire new knowledge. The effective use of the widest range of opportunities realized on the basis of ICT tools is associated today with the formation of ICT competency as the most important component of the general intellectual information and communication competence of all participants in the educational process. The effective use of the widest range of opportunities realized on the basis of ICT means is associated today with the formation of ICT competency as the most important component of the general intellectual information and communication competence of all participants in the educational process [9-10].

Referens

1. Methodological recommendations on the formation of ICT competencies of a physics teacher in a continuing education system [Electronic resource]. URL: http://window.edu.ru/resource/839/38839/files/mr6.pdf

(accessed 05/02/2020).

2. Competency-based approach to the organization of the educational process in educational institutions of the Ministry of Internal Affairs of Russia [Electronic resource]. URL: https://elibrary.ru/download/elibrary_23006014_34876840.pdf (accessed: 02.05.2020).
3. The use of ICT in the implementation of the main educational program in the lessons of the professional cycle [Electronic resource]. URL: https://elibrary.ru/download/elibrary_25962385_57842385.pdf (accessed: 02.05.2020).
4. Ferret T.A., Shandanova O.V., Ferret A.S. The formation of professional competencies of graduates through the use of information and communication technologies (ICT) // Psychology, Sociology and Pedagogy. 2013. No. 11 [Electronic resource]. URL: http://psychology.snauka.ru/2013/11/2618 (accessed date: 02/05/2020).
5. Formation of ICT teacher competencies [Electronic resource]. URL: https: //nsportal.ru/shkola/administrirovanie-shkoly/library/2014/04/06/formirovanie-ikt-kompetentsiy-pedagoga (accessed: 02/07/2019).
6. Order of the Ministry of Education of the Russian Federation of February 11, 2002 N 393 "On the Concept of Modernization of Russian Education for the Period Until 2010" [Electronic resource] URL: http://ivo.garant.ru/#/document/1588306/paragraph/30007 (accessed: 02.05.2020).
7. Teacher's competence in ict use [Electronic resource] URL: https://elibrary.ru/download/elibrary_22938274_19782998.pdf (accessed: 02.05.2020).
8. ICT competence of an education worker and the ways of its formation [Electronic resource] URL: https://elibrary.ru/item.asp?Id=26163483 (accessed: 02.05.2020).
9. Pedagogical support of the continuing education process in the field of information and communication technologies [Electronic resource] URL: https://elibrary.ru/download/elibrary_12897938_81254250.pdf (accessed date: 02.05.2020
10. Assistance in organizing the translation and publication of the article in the journal Scopus was provided. By the international scientific publishing, house "Scientist View". Link to the site: https://scientist-view.ru/
11. Aleksandrovich, P.S., Vladimirovich, K.O. Determination of thermal-physical properties of facilities. 2016, Journal of Engineering and Applied Sciences 11(13), pp. 2925-2929
12. Alexandrovich, P.S., Andreevich, F.Y., Vladimirovich, K.O. Thermal mode calculation tecnique for thermal syphone with two-component heat carrier. 2017, Journal of Engineering and Applied Sciences 12 (Specialissue2), pp. 6335-6338
13. Alexandrovich, P.S., Vladimirovich, K.O. Method of a building object thermophysical property determination. 2017, Journal of Engineering and Applied Sciences 12(Specialissue11), pp. 9056-9060
14. Alexandrovich, P.S., Vladimirovich, K.O. Autonomous power supply system for lighting equipment. 2017, Journal of Engineering and Applied Sciences 12(Specialissue10), pp. 8954-8958
15. Vladimirovich, K.O., Igorevna, S.O., Abdulazizovna, I.D. Experimental installation to determine the heat loss of a construction object. 2019, Test Engineering and Management 81(11-12), pp. 1811-1815
16. Vladimirovich, K.O., Aleksandrovich, P.S., Alexandrovich, P.A., Sergeevna, S.E. Measuring the thermo physical properties of construction projects. 2019, Journal of Computational and Theoretical Nanoscience 16(7), pp. 3121-3127
17. Vladimirovich, K.O., Aleksandrovich, P.S., Alexandrovich, P.A., Sergeevna, S.E. Automated portable installation to determine the thermo physical properties of the object. 2019, Journal of Computational and Theoretical Nanoscience

16(7), pp. 3115-3120

18. Vladimirovna, L.A., Vladimirovich, K.O., Mordovia, O. Energy-efficient autonomous system of heating 2019. Journal of Computational and Theoretical Nanoscience 16(1), pp. 145-150
19. Vladimirovna, L.A., Vladimirovich, K.O., Viktorovich, M.V. Conducting audits in small enterprises and assessing their compliance with international standards. 2019, Journal of Critical Reviews 6(4), pp. 79-83
20. Sergeevna, S.E., Vladimirovich, K.O., Anatolievich, G.A. Features of the use of testing as a method of pedagogical control of students' knowledge in the educational process. 2020, Journal of Critical Reviews 7(3), pp. 181-184