

# Implementation of the Competence Approach in the IT Space of Higher Education

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## ANNOTATION

The article deals with the formation of professional competencies of a specialist based on educational standards and requirements of the professional community in the conditions of digitalization of the economy. The analysis of the legal framework that imposes the necessary requirements for the content of educational programs of the University. The essence of the competence approach in influencing systemic change in the educational sphere of Russia and affecting all aspects of its activities: the organization of the educational process, the interaction of all allocated levels in the education system, the development of a new system of assessment tools according to the level of required competencies. The analysis of specific models of professional competence of a specialist is carried out. The issues of forming a competence-based approach in the conditions of digitalization of public relations are considered. A methodology for forming and evaluating the competencies of future specialists in the IT educational space of the University was developed and proposed.

**Keywords:** *competence, competence approach, higher education, IT educational space, methodology*

## 1. INTRODUCTION

The system of strategic directions for improving higher education assumes the goal to develop educational activities for the formation of demanded competencies of specialists.

The relevance of this issue, both for universities and for specialists themselves, is due to the interests of subjects: on the one hand, graduates are interested in finding a job in accordance with their specialty, as well as in the possibility of professional improvement over the course of life, career growth and of professional development; on the other hand, employers are interested in competent specialists, because they, in order to accumulate specific capital, prefer long-term employment in conditions of a steady increase in demand for highly qualified specialists.

The problem of forming professional competencies of students is widely covered in the works of scientists: N. Sh. Valeeva, F. F. Frolova [1], T. V. Ledovskaya, N. E. Solynin [2], O. S. Andreeva, O. A. Selivanova, I. V. Vasilieva [3]. The latter focus on indicators for monitoring the practical component of professional competencies.

Currently, the state policy of the Russian Federation is focused on the development of the education system in the context of digital technologies. These principles are laid down in the national programme "Digital economy" [4]. In this regard, the formation of a system of competencies of future specialists taking into account modern trends in digitalization [5-9] is of particular importance.

The formation and implementation of a competence-based approach that meets the current conditions of society development and trends in digitalization is a guiding vector for changes in the educational process, where the main task is to focus on the compatibility of the fundamental nature of training with the practical knowledge and skills of graduates, expressed in the model of professional competencies. The proposed educational programmes should take into account the competence approach in modern state educational standards, educational and intellectual needs of the individual, economic, social and spiritual development of society and new forms of learning through electronic information technologies. This combination, in our opinion, can contribute to improving the level and quality of teaching, as well as training students to become creative professionals in the labor market, who have the required competencies in the business environment.

## 2. RESEARCH METHODOLOGY

During the work on the article, the authors used methods of scientific abstraction, induction and deduction, analogy and generalization, system, economic, organizational, and functional analysis, which formed the research methodology.

### 3. THE RESULTS OF THE STUDY

The development of the main educational programs of higher education institutions that reflect the competence approach is based on the legal framework that sets the necessary requirements for the content of such programs.

The legal framework for the formation of the required professional competencies of graduates includes the following main documents:

- Federal law of 29.12.2012 N 273-FL "on education in the Russian Federation" [10] (hereinafter - the law on education);
- Order of the Government of the Russian Federation of 08.12.2011 N 2227-p <on approval of the strategy of innovative development of the Russian Federation for the period up to 2020> [11];
- Orders of the Ministry of education and science of the Russian Federation on approval of Federal state educational standards [12-14], etc.

The law on education establishes the legal, organizational and economic foundations of education in Russia. The current law on education clearly traces the idea of "education throughout life" in the form of approval of interrelated and interdependent levels (stages) of the educational system.

It is important to note that Russian legislation in the field of higher education pays special attention to the need for the formation of General cultural (universal) competencies for specialists with a higher education diploma. The law on education notes integration into modern society one of the most necessary features of a competent specialist.

Since the 2011-2012 academic year, universities have switched to implementing basic educational programmes according to Federal state educational standards (hereinafter referred to as FSES), which reflect a competence - based approach in the form of the formation of certain competencies.

It should be noted that modern third-generation FSES have become the normative basis for the formation of basic and professional competencies of a modern person. According to the third-generation FSES, a specialist of the second educational level (Master's degree) should be able not only to formulate professional tasks independently, but also to offer, including non - standard, ways to solve them, as well as directly participate in their implementation, unlike a specialist of the first level of higher education (Bachelor's degree) - mainly a performer for solving professional tasks.

It is important to note that the new generation of Russian educational standards is based on the basic principles of the Bologna process. In this regard, the requirements for professional training of specialists are increasing, where the main strategic direction is the development of the individual's ability of self-determination, self-development and creative activity. The reform of the Russian education system within the framework of the Bologna process (Russia joined the process in 2003) has a conceptual framework aimed at making this system correspondent to the educational systems of Western countries.

Models of professional competencies are particularly important in the educational process. It is important to consider and analyze the research of Russian scientists in the framework of the development and use of professional competence models based on the competence approach, in accordance with the emerging new requirements of the developing economy of knowledge.

Smirnova O. V. gives a traditionally recognized model that reflects: a) the functions of a professional, b) the content of professional activity, C) the quality of a specialist, d) the knowledge and skills that he should have. Thus, the FSES, as noted by researchers (Smirnova O. V., Sokolov V. M., Lyubimova O. V., etc.), acts as a Federal quality standard for the development of basic educational programs and is formalized in the form of requirements for competencies [18; 19].

Thus, Kalyagina I. V. offers an integrative model of professional competence of a specialist based on a culturally-oriented approach to education. She presents it as a system designed to solve a very important modern problem of the relationship and interrelationship between education and culture. In professional training, the author highlights the creative competence of a specialist as one of the key ones – his ability to create, both in the course of training and in further professional activity. According to the authors, the model is designed to solve the overdue contradiction between the time lag between modernization of technologies (in some industries every 2-3 years) and the terms of training specialists (up to the required skill level of 12-14 years) [20].

The model, in our opinion, is relevant, but at the same time has a drawback, considering that research, gnostic and creative competencies are interconnected. Based on the presented author's understanding, all three competencies, in our opinion, mean the ability to creatively apply and interpret the specialist's existing knowledge and skills. While it is quite possible to agree with the interpretation of other competencies presented in the model.

Researchers Golovina O. D. and Vorobyova O. A. offer a model that includes directions for the formation of professional competencies of a modern manager, i.e. students who already have basic education, but want to improve the competence of management activities in the context of modernization of the country's economy [21].

The relevance of the model is determined by the fact that in the field of business management, one of the most important components of its success is the high qualification of managers and the use of new management technologies, which are actively developing in Russia. The model is built in accordance with the European classification. The competencies included by the authors in the model: cognitive, functional, personal and ethical, require new development to improve the skills of managers, due to the current lack of highly qualified managers in the Russian labour market.

Thus, the parameters of the modern model of professional competencies should reflect the main reference characteristics of a professional in their field, which are in demand in a certain period of time in accordance with the requirements of the business environment.

Despite the fact that the structure and content of modern higher education programmes are aimed at the formation of professional and personal competencies necessary for a young specialist to realize the opportunity to be in demand in professional activities, the labor market signals that the level of necessary, demanded competencies is insufficient at present. In this regard, the competence approach in the Russian Federation has reached a new stage of development: taking into account the system of independent assessment of specialists' qualifications in accordance with the Federal law of 03.07.2016 No. 238-FL [22].

This involves focusing educational programs not only on Federal state educational standards, but also on professional standards, the main component of which is the labor functions of future specialists. In order to train specialists to be in demand in the future, the labor functions that form the basis of professional standards should be reflected in educational programs.

The orientation of educational programs to the requirements of professional standards is one of the most promising areas of development of the education system and is of great practical importance for the development of professional activities. Educational organizations that were able to confirm the compliance of educational programmes with professional standards are certified by a document confirming the professional and public accreditation.

Another factor in the formation of the competencies of future specialists in conditions of the modern development of public relations is the digitalization of many areas of public life. Digitalization mechanisms are beginning to be successfully applied and developed in the higher education system, which is reflected in the existence and gradual increase in the number of educational e-courses, the use of distance learning technologies by universities, and the support of electronic educational technologies at the state level [23; 24; 25]. Adapting the competence approach to the conditions of education digitalization becomes an extremely important task.

With the aim of developing the competence-based approach, tailored to the requirements of Federal state educational standards, focus on the content of professional standards, and taking into account modern conditions of public spheres digitalization, the authors developed a method of formation and assessment of competencies within digital educational platforms.

The proposed method involves the use of a set of educational technologies by a teacher applying teaching through IT educational systems:

- Visualization of the material in the framework of lectures in online or offline format (presentations using diagrams, drawings, graphs, tables, etc.), which allows students to perceive and assimilate the material better.
- Visualization of the studied material by students as feedback in online or offline format (giving presentations, videos, diagrams, tables, etc.). Working out presentations, schemes, diagrams, etc. contributes to the development of visual and creative thinking of students, which later allows not only to learn the material well and

understand it in more detail, but also makes it possible to find a fundamentally new solution to the problem.

- Solution of situational issues based on real practical problems by students in groups created in the IT educational environment; discussion of solutions together with the teacher in online mode. This technology makes it possible for students in the format of a joint discussion to find solutions to real practical problems that may arise when performing their professional activities

- Writing online test work consisting of tasks of different types and types: multiple-choice tests, open questions, matching, sorting, classification, sequence determining tasks, etc. This technology increases the assessment objectivity and can cover a large amount of the material passed, as well as take into account the peculiarities of students' thinking, which is especially important in the distance learning format.

- Conducting an individual online interview with students on the course under study, discussing the results of the test work. This can help the teacher to identify the material that is not absorbed by students and allows students to learn how to formulate their ideas, ask questions.

The competencies formed by this method will enable students to successfully master an online educational course, as well as to pass a professional exam to confirm compliance with the requirements of the professional standard (independent assessment of qualifications) [22], which will increase the competitiveness of the future specialist in the labour market.

The use of this method will help to increase the level of students' involvement, as well as improve the quality of education in general through the use of a set of educational technologies aimed at consolidating theoretical knowledge and acquiring practical skills. In addition, the proposed method will improve the level of professional qualification of the teacher: in the process of making situational tasks based on real practical problems, as well as through the development and application of new methods of distance learning.

Summing up the above said, it should be noted that the proposed method, on the one hand, allows you to form the students' competencies necessary for the successful implementation of professional functions and achievement of a high level professional qualification on the basis of IT educational technologies, on the other hand, contributes to the professional development of teachers and improve their work skills.

#### **4. DISCUSSION OF RESULTS**

The results obtained in the course of the research can be used to make corrective changes in the working programs of disciplines of higher education institutions, as well as to create an IT space for educational organizations.

The proposed considerations can be applied to improve the system of independent assessment of qualifications and adapt this system to the conditions of digitalization of public relations.

## 5. FINDINGS

Currently, the development of institutional forms of interaction between education, business, government and the state is an important component of the development of public relations in general and the higher education system in particular. Professional competencies in the form of specific knowledge, skills and abilities are valuable human resources, and human development is considered as the goal of the development of society [26].

The authors' study leads to the conclusion that the effective development of the higher education system is possible with the formation of competence approach on the principles requirements of Federal state educational standards, needs of the professional community (focus on professional standards), integration into the system of public relations digitalization.

When forming professional and personal competencies required by business environment in the conditions of social digitalization, it is necessary to provide a methodological basis for effective work of teachers in various fields of subject knowledge, which allows them to train highly qualified specialists. In this regard, the authors of the article developed and proposed a methodology for the formation and evaluation of competencies in the framework of digital educational platforms.

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