Professional standard "Digital tutor" as the guidance for the specialist of a new profile

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Abstract. In this article the following notions are characterized: the concept, structural and substantive features of the professional standard "Consultant in the development of digital competence of the population (Digital tutor)," which regulates the activities of representatives of a new breakthrough profession in ensuring digital literacy of the population. It was pointed that the development and implementation of this professional standard meets the requirements of time and the need of the population to use information and communication technologies in the transition to the fifth technological order, for which the competencies of the digital economy are urgently needed. Based on the interpretation of the results of the content analytical study, it was proved that the professional standard is focused on two groups of competencies – IT (Information technology) and pedagogical. They are presented in three clusters: "Labor actions," "Necessary skills" and "Necessary knowledge." The content of these clusters determines the training requirements for future specialists. There is a bias towards the requirements for information technology training to the detriment of pedagogical training, despite the fact that the pedagogical activity aiming to educate the population of various typological groups should dominate. A loss of logical sequence was established when designing the content of the pedagogical unit, the lack of accounting for the initial level of pedagogical awareness at the stage of selecting potential tutors. Thematic gaps were identified in determining the content of pedagogical training between the requirements for specialists of the third and fifth qualification groups.

1 Introduction

The modern world is undergoing a difficult stage of socio-economic and technological changes, the development of which depends on the effectiveness of the development of countries in the post-industrial era. The transition to new technological frameworks, which make up the basic characteristics of the influence of scientific and technological progress on all spheres of life, takes place in different countries at different speeds, and they are characterized by discreteness and diffusion, and, in general, determine the type of economic development and the structure of public consumption. In the Russian Federation, while

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preserving the features of the third and fourth technological layouts, a sequential transition is carried out simultaneously to the fifth and sixth layouts [1, 2]. The core of the new layouts is information technology, which is currently included in all areas - management, production, services, leisure. Currently, the task of digital transformation of priority sectors of the economy and social sphere has been put forward and is being implemented. At the same time, the state is actively creating and supporting projects for the digital development of the economy of the constituent entities of the Russian Federation on the basis of national developments, as well as projects for the transformation of priority sectors of the economy and social sphere.

Documents regulating the development of the digital environment entered into force in the Russian Federation: "Concept of long-term economic and social development of the Russian Federation for the period up to 2020", "Development strategy of the information society of the Russian Federation for 2017-2030", "Digital economy of the Russian Federation", "The national project "Education" (in relation to the problem under consideration – in the part 'Digital educational environment')", The federal project "Teacher of the Future", "Concept of the Unified digital educational ecosystem", etc. These documents are of great importance for the development of all spheres of the Russian economy, culture, social practice, but at the conceptual level do not contradict the international framework and theoretical approaches to their development proposed by Western researchers.

At present, a great deal of work has been done in the Russian Federation aimed at the practical development of measures and conditions for the digitalization of all spheres of life. Platforms have been created to ensure the exchange of information between the state, citizens, commercial and non-profit organizations (the so-called 'Digital Profile'), an open format of profiles of citizens' competencies, their development trajectories and their creation procedures have been approved. A system of providing public services in electronic form has been created and put into operation, 35 Centers for accelerated training of specialists together with digital economy companies are operating. The scientific circulation has firmly included concepts and terms that characterize new digital practices and the readiness of the population of various typological groups to implement them: digital awareness, a typical digital service, the competence of the digital economy, a personal profile of competencies, etc. Naturally, the following question arises: how will the population develop the notions that are currently necessary for work and daily life in a digital society? Who can provide qualified assistance to citizens of various typological groups in mastering the basic techniques and methods of using the digital potential of modern life support systems?

In the Russian Federation, IT specialists are actively trained, and their number is constantly increasing. In 2021, 80,000 applicants for higher education programs in the sphere of information technology were accepted, and 105,000 working specialists, including heads of organizations and representatives of state authorities, were trained in the competencies of the digital economy (starting in 2019). The acute shortage of professionals with competence in the sphere of work with the population can be compensated for the expansion of the list of professions and the creation of conditions for their training. The Ministry of Labor and Social Protection of the Russian Federation promptly responded to the new needs of society and in 2018 developed professional standard 06.044 "Consultant in the development of digital competence of the population (Digital tutor)". It is a regulatory document that characterizes within the framework of a new profession the qualifications, which are necessary for the performance of a certain type of professional activity, including the performance of a certain labour function. Digital training includes two types of requirements for a consultant: he must have information and communication technologies and pedagogical knowledge that can help the population of any age group and

vocational qualification category. The problem is to determine the potential of the standard in terms of requirements for the information, communication and pedagogical competencies of a specialist, fixed in this standard as the regulation of his activities, as well as to determine whether the content of the professional standard affects the organization of training of specialists of this profile.

2 Materials and methods

The concept of research. The purpose of the study is to determine the qualitative identity of the professional standard "Consultant in the development of digital competence of the population (Digital tutor)", designed to regulate the professional activities of specialists in the field of assistance to large segments of the population on the application of information and communication technologies in various areas of life.

Study hypothesis. When providing the study, we assumed that the training of a specialist to work with the population of various typological groups is a new field of professional practice, requiring a harmonious combination of several areas of professional knowledge. On the one hand, the consultant should have thorough knowledge of the application of information and communication technologies, and on the other hand, pedagogical competence, since his work is reduced to training the population in the use of information and communication technologies. The problem lies in the answer to the question of how the Professional Standard regulating the labour functions of a consultant presents technological and pedagogical components that allow performing professional activities and characterize the labour activities of a specialist.

The empirical source of the study is the text of the professional standard "Consultant in the development of digital competence of the population (Digital tutor)", approved by order of the Ministry of Labor and Social Protection of the Russian Federation dated October 31, 2018 No. 682-n.

Research methods - theoretical methods are used - analysis, generalization, comparative analysis [3], interpretation, generalization, content analysis [4-6].

When conducting content analysis, the semantic category of analysis was the concept of "professional competence". The unit of account was the item highlighted in the sections "Labor actions", "Necessary skills" and "Necessary knowledge" and containing a requirement for the competence of a specialist - digital tutor.

When deciding whether a particular position relates to the technical or pedagogical component of the competence of a specialist, we took into account the presence of special pedagogical vocabulary presented in the wording of the competence requirement, for example, "educational event", "explanation", "demonstration", "methodology", "literacy", "performance assessment", "competence", etc., presented in various versions and phrases with distinctive feature. At the same time, the presence of several semantic blocks (including those presented in the form of pedagogical concepts) in one position formulated in the standard was not taken into account, only one unit of account was counted.

Data on the calculation of the intensity of the appearance in the text of the professional standard of positions reflecting the requirements for qualifications in the form of pedagogical and technical vocabulary were entered into the EXCEL program coding tables for their further visualization of the results.

3 Results and discussions

Professional standards characterize the qualifications necessary to carry out a certain type of professional activity. They are an important element of the National Qualifications System. The procedure for the development and implementation of professional standards in the Russian Federation was first determined by Government Decree No. 23 of January 22, 2013 “On the rules for the development and approval of professional standards”. According to the Order of the Ministry of Labor and Social Protection of the Population of September 30, 2014 No. 671n “On Approval of Methodological Recommendations for the Organization of Professional-Public Discussion and Examination of Draft Professional Standards”, State and Public Organizations, Employers' Union and Professional Associations take part in the development of the content of the standard. The responsible organization-developer of the professional standard was the All-Russian Public-State Educational Organization “Russian Society Znanie”. Professional standards have a single structure; the same terminology established for all documents is used for the description.

The professional standard “Consultant in the development of digital competence of the population (Digital tutor)” defines the purpose of the professional activity of a specialist as consulting on the use of information and communication technologies and the development of digital competence of the population of various typological groups. The document describes two types of generalized labor functions, each of which has its own encoding. Code “A” records consulting citizens in the sphere of development of digital competence; Code “B” defines measures for organizing and conducting events to advise citizens in the sphere of digital competence development. Generalized labour functions are specified in the list of labour functions, which also have their own coding specified at the level (sub-level) of qualification. Functional map of professional activity is given in Table 1.

Table 1. Functional map of professional activities in the professional standard “Consultant in the field of development of digital competence of the population (Digital tutor)”

Generalized labour functions			Labour functions		
Code	Title	Skill Level	Name	Code	Skill Level (sublevel)
A	Consulting of citizens on the development of digital competence	3	Carrying out preparatory work on counseling citizens in the field of application of information and communication technologies	A/01.3	3
			Individual information and communication technology consulting for citizens	A/02.3	3
			Organizational and technical support for awareness-raising activities aimed at the development of digital competence of citizens	A/03.3	3
B	Organization and implementation of events to advise citizens on the	5	Awareness-raising activities aimed at the development of digital literacy of citizens, "B/02.5" Provision of advisory services on the use of information and communication technologies	B/01.5	5

	development of digital competence		Provision of information and communications technology advisory services	B/02.5	5
			Consulting support for the development of digital competence of citizens using information and educational resources	B/03.5	5
			Organizational and methodological support for the provision of advisory services in the field of digital competence development	B/04.5	5

As it is shown in Table 1, there are two levels of digital tutor qualification. Skill level 3 implies that a specialist may hold the positions of assistant consultant or associate consultant in the sphere of digital competence. The requirements for education and training are limited by vocational training programs for workers' professions, positions of employees, retraining programs for workers and employees, and training programs for workers and employees.

Qualification level 5 allows you to hold the post of consultant in the field of digital competence development. Requirements to the level of education - secondary vocational education and additional vocational education or higher education and additional vocational education.

Thus, the professional standard “Consultant in the development of digital competence of the population (Digital tutor)” allows students to get this modern profession, which will allow them to start working much earlier.

Let us consider the features of the representation of labor functions at each qualification level within the framework of generalized labor functions.

The first stage of content analysis.

The object of the study at the first stage was the text of a professional standard characterizing the generalized labor function “Consulting citizens in the sphere of digital competence development”, corresponding to the third qualification level. Within the framework of the generalized labor function, three labor functions are identified - A/01.3 – “Performance of preparatory work for consulting citizens in the sphere of the use of information and communication technologies”, A/02.3 - “Introductory individual consulting of citizens in the sphere of information and communication technologies” and A/03.3 – “Organizational and technical support for the implementation of information and educational measures aimed at the development of digital competence of citizens”. The selection of items characterizing the technical and pedagogical aspects of qualification and the results of their counting are presented on fig. 1.

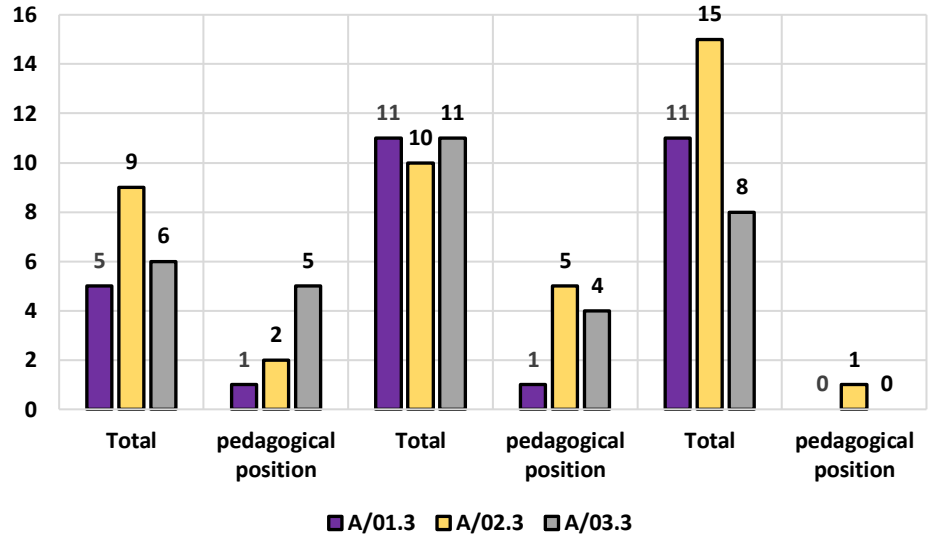

Fig. 1. Distribution of positions characterizing the qualification characteristics of a digital tutor with the third level of qualification.

The analysis of the distribution range by labor actions position regarding the performance of preparatory work on consulting citizens (A/01.3) has shown that technical aspects prevail. A pedagogically significant position is represented by the holding of consultations of citizens who proactively applied for information. When describing labour actions aimed at individual consulting (A/02.3), it has been noted that it is necessary 1) to use the method of explanation and 2) to use the method of control in the form of knowledge testing, but the technical aspects of professional qualifications dominate. The analysis of the positions of organizational and technical support for educational activities (A/03.3) has shown that in this position the pedagogical component is quite widely presented. It includes: conducting educational events, individual training, questionnaire, preparation of didactic materials in the form of presentations, etc., which requires special professional training.

The range of distributions of necessary skills positions, in general, reflects the already noted tendency to predominantly represent the technical characteristics of the digital tutor. In the labour function, the A/01.3 the following fact draws our attention that it is provided for consulting citizens with disabilities. To a certain extent, the same emphasis is not lost in the representation of positions in the labor function. A/02.3 In particular, it is pointed out the ability to explain, show, evaluate the result of the consultation, while taking into account the individual characteristics of citizens, including persons with disabilities. When describing the labour function related to educational activities (A/03.3), a meaningful emphasis is given to the development of the competence of the population in the sphere of information technology, the preparation of presentations, the conduct of a survey, the preparation and processing of questionnaires.

The necessary knowledge required during labor actions based on the necessary skills is reflected in the position “necessary knowledge”. When analyzing the numerical data reflected on the graph, a sharp mismatch of technical and pedagogical positions is obvious. In the labour functions A/01.3 and A/03.3 there is no pedagogical knowledge, in the functions A/02.3 there is in the form of a mentioning of communication with people with disabilities. Technical knowledge, as well as knowledge of etiquette and knowledge of the norms of the Russian language are declared in demand.

The Second stage of content analysis.

The object of the study at the second stage was the text of a professional standard characterizing the generalized labor function "Organization and implementation of events to consult citizens in the sphere of digital competence development", corresponding to the fifth qualification level. The standard identifies four labour functions with special codes: B/01.5 "Conducting awareness-raising activities aimed at developing digital competence of citizens", B/02.5 "Providing advisory services on the use of information and communication technologies", B/03.5 "Consulting support for the development of digital competence of citizens using information and educational resources", B/04.5 "Organizational and methodological support for the provision of advisory services in the sphere of digital competence development". The results of measuring the content of positions are in three clusters - labor actions (first and second columns), necessary skills (third and fourth columns) and necessary knowledge (fifth and sixth columns) – and they are shown on fig. 2.

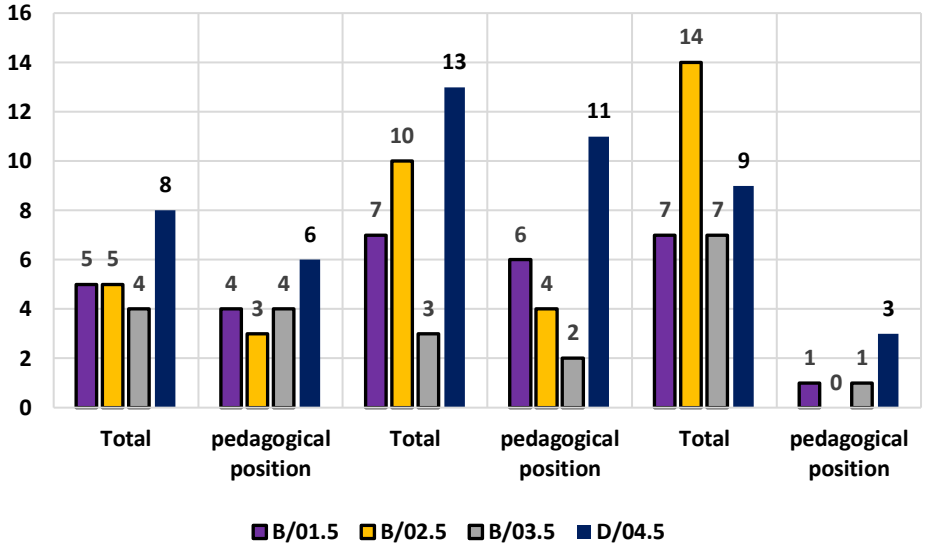

Fig. 2. Distribution of positions characterizing the qualification characteristics of a digital tutor with the fifth level of qualification.

The first cluster - labor actions within the labor function B/01.5, as shown in the graph, includes a fairly large number of positions of a pedagogical focus. They cover the planning and development of awareness events, the preparation of presentation materials that guide the population of various typological groups to master digital competence. The labour function B/02.5 includes the planning of group and individual consultations, the analysis and evaluation of the results of consulting work. As part of the description of the labour function B/03.5, the following labor actions are provided: the diagnosis of the level of digital competence and the provision of advice on the further selection of an educational and/or educational program taking into account the interests and needs of the citizen.

The description of the labour function B/04.5 focuses on labor actions related to the prospective planning of awareness activities, the formation of recommendations for their developers and the outspread of positive experience in consulting.

Within the second cluster of necessary skills, it is also necessary to note a sufficient intensity of positions with the theme of pedagogical focus. Educational activities (labour function B/01.5) include skills such as the development of a concept and scenario for the development of digital competence activities taking into account various age categories of citizens, the moderation of forums for the population, the survey and presentation of materials in order to improve the content and methods of education. As part of the description of the labour function B/02.5 pedagogical component is presented by the requirement to conduct explanations, develop a system of questions and tasks in order to determine the effectiveness of training (including the persons with disabilities). The labor function B/03.5 contains a requirement to apply digital competence diagnostic methods and determine priority forms of supporting the development of digital competence. The labour function B/04.5 most fully represents pedagogical skills, which include an assessment of the quality of education, new approaches to its arrangement, the introduction of modern methods, approaches and means of teaching digital competence, and ways to outspread positive work experience. The logical and meaningful emphasis is placed on the observance of individual requests of citizens, their age characteristics, cognitive potential and needs. This position is the most intensive pedagogical topic (11 out of 13 positions presented in the block).

The necessary knowledge cluster is highly ambiguous. There is a certain dissonance between the amount of technical knowledge that a consultant should possess in the field of digital competence development of the population and the pedagogical knowledge that should ensure its success in this area. At the same time, the position of the labor function B/01.5 duplicates the previously declared and detailed “general methods” of making presentations; the labour function B/02.5 does not include pedagogical knowledge; the labour function B/03.5 duplicates the diagnostic requirement.

The largest number of pedagogically significant positions (3 positions) takes place within the labor function B/04.5, but even they do not thematically coincide with the content of previously formulated requirements. So, in the labor function under the code B/04.5 for the first time, such subjects as “methodological and theoretical foundations”, “methods of additional education” and “theoretical foundations and practices of project activity” appear. Without denying their importance as a whole for the development of the vocational education system, we note that the number and quality of selection of these requirements in terms of knowledge acquisition does not solve the task of preparing for the implementation of the tasks of teaching the population digital competence. Emphasis is placed on the mainly technical aspects of training a digital tutor, which, of course, are important, but do not solve the problem of preparing the population for the use of digital technologies. We should note that in the content plan there are new inconsistencies in the thematic content, since previously undefined plotlines appear which to a large extent should change the content and focus of the preparation.

Thus, as the study has shown, the “necessary knowledge” cluster is quite important, since it determines the content of the training of the future digital consultant. We will conduct a comparative study of the number of positions provided in the professional standard to two blocks - A and B. The content-analytical study has shown a rather uncommon result (Graph 3).

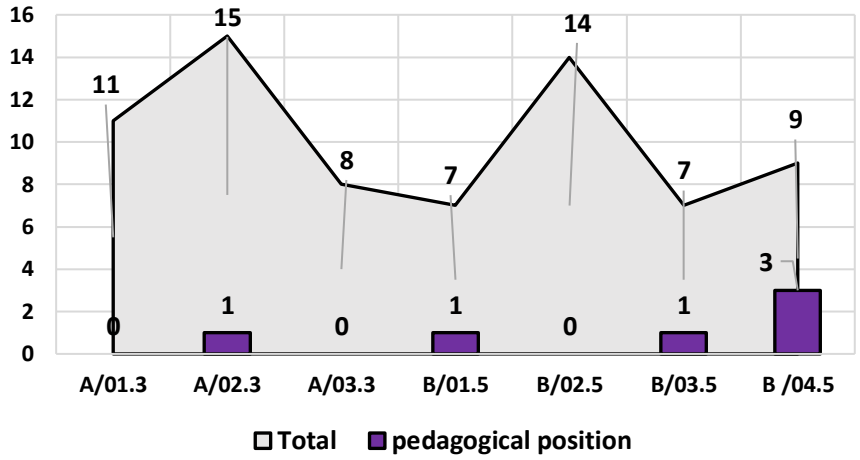

Fig 3. Relation of positions characterizing knowledge from the sphere of information technology and pedagogical knowledge and the professional standard "Consultant in the sphere of development of digital competence of the population (Digital tutor)".

As it is shown on Figure 3, there is a significant discrepancy in the positions that require information technology and pedagogical training of future consultants on the development of digital competence of the population. Obviously, developers of the professional standard give a clear preference to the study of information technology tools and the information technology component, work with web search engines, and the use of databases. Without denying the importance of these competencies, we note that this approach greatly complicates the implementation of the very concept of training, stated in this professional standard. The third level of qualification (within the framework of all positions of code A) allows you to involve senior schoolgoers and students in the development of this program. This opens up the possibility of a quick professional start in the digital economy. However, it should be taken into account that this age group of future digital tutors had the opportunity to acquire knowledge in the sphere of computer science both in the school course and during university studies. The development of program content on information technologies will be based on a certain set of knowledge obtained in both the formal and non-formal education systems. However, it is difficult to assume that future digital curators among schoolchildren and students have mastered an array of pedagogical knowledge (including the features of working with a population with special cognitive needs), which will form the basis of their activities to educate the population of various typological groups. Logic suggests that the scope and focus of pedagogical knowledge is insufficient and will not help to narrow the digital competence gap for citizens of various social groups and ages.

4 Conclusions

A study of a set of issues related to the introduction of the professional standard "Consultant in the development of digital competence of the population (Digital tutor)" has shown that the Ministry of Labor and Social Protection responds promptly, in a timely and adequate manner to the emergence of new realities that characterize the modern situation in the transition to digitalization of economic areas and social life. The professional standard opens up new opportunities to implement not only economic, but also educational projects, expands the possibilities of using digital technologies and on-line services in various areas

of life, and promotes the development of digital competencies of various groups of the population. For young people, this standard opens up opportunities for early professional start, for older generations - social inclusion and professional longevity as a digital tutor. The opening of digital competence centers in educational institutions, libraries, post offices, social service centers increases the level of digital competence of the entire population of the country. In such institutions, citizens acquire the ability to create an individual information space, use information portals, make payments and purchases, register and communicate in Internet communities, use special social networks, which will significantly improve the economic, social and cultural level of the population, and, as a result, give the country a competitive advantage in the digital world.

The professional standard is designed to regulate the professional activities of persons with different levels of qualifications, which significantly increases the possibilities for their self-realization. In the thematic plan, two positions have been established, the content of which should be mastered by digital tutors - information technology and pedagogical. The information and technology component dominates to the detriment of the actual pedagogical, necessary for the implementation of educational and consulting work. The focus of the standard to work with citizens with health limitations and special cognitive needs should be noted as a positive development. Among the problematic issues that can be minimized in the process of implementing educational programs based on a professional standard, one should include a certain loss of logical sequence in the design of the content of the pedagogical block, accounting for the initial level of pedagogical competence at the stage of selection of potential tutors.

The professional standard “Consultant in the development of digital competence of the population (Digital tutor)” with its efficient implementation, compensating for the aspects we have identified, will increase the level of competence in the use of digital services, confident actions of representatives of various typological groups of the population in the digital environment.

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