

# TRAINING OF HIGH QUALIFICATIONS IN THE ACCOUNTING, STATISTICS DIRECTION IN ACCORDANCE WITH PROFESSIONAL STANDARDS

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**Abstract.** *The human potential of science is the basis for the formation of the scientific elite, which has declined significantly in recent decades in Russia. The process of forming the human resources potential of a higher school science must begin with the qualitative organization of research activities of students. Then it is necessary to conduct training of scientific personnel in postgraduate study. At the final stage after graduation from the graduate school, it is necessary to carry out measures to secure the trained scientific personnel in higher education with the replacement of a certain post.*

*The human resources potential of science should be considered as an integral characteristic of the available capabilities of each employee. It is important not only to properly assess this potential, but be able to form it. The training of highly qualified personnel is an important strategic stage in the formation of the human potential of science and increasing the competitiveness of the university, taking into account the presence of such negative factors as the aging of scientific personnel, the transfer of scientific and teaching staff to other spheres of the economy, etc. The competitiveness of a higher educational institution largely depends on postgraduate education, which significantly affects the rating indicators of the university.*

*Objective of this research is carrying out a complex author's research of the current state of training of the top skills in the Accounting, Statistics direction taking into account application of professional standards and also definition of positive and negative sides in the course of their interface. The research is conducted by means of the system analysis. The retrospective analysis of development of system of the higher education in Russia is also applied. The drawn conclusions confirm need of improvement of the existing system of the higher education in a number of the directions. It is necessary to understand that the personnel potential of science is the multidimensional category more difficult according to the contents, than the personnel capacity of the organization.*

**Keywords:** *Personnel potential of science, shots of the top skills, professional standard, skill levels, levels of the higher education.*

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**JEL Classifications:** J24, J80, M53

## 1. Introduction

The professions demanding high social responsibility need to be carried to the regulated professions. When performing such professional activity there is a high risk to do harm to people. Such professions can be classified as the professional activity of highly qualified personnel, since it is from them that the teaching staff is formed, on which the

quality of higher education in the country depends. For the planning of human resources, its formation and development, certain professional criteria for staffing are needed. Development of such criteria has been carried out in Russia since 2008. The need for this arose with the strengthening of the process of world integration in all areas of economy and production. Also one more reason of standardization processes became obsolete qualification directories. With the passage of time, the requirements for professions, knowledge and skills, necessary competences have changed significantly. Moreover, the professions themselves have changed, and many of the professions mentioned in the directories simply do not exist.

For the development of professional standards, skill levels have been defined that are used to describe labor functions, education requirements and employee training. There are nine such levels and they contain descriptions of the following indicators: “Powers and responsibilities”, “Character of skills”, “Nature of knowledge”, “Basic ways to achieve the level of qualification.”

Questions of effective use of personnel capacity of the organization and higher education institution were analyzed in E.V. Astakhova [4], Yu.G. Odegov [5], L.I. Romankova’s works [6], R. I. Kapelyushnikov by [7], A.P. of Dudar [8], N.K. Dolgushkina as [9], A.D. of Kotlyar [10] and others.

Influence of personnel potential on efficiency of functioning of the organization within the concept of the human capital is emphasized in M. Armstrong’s works [11], K. Marx [12], G. Becker [13, 14], L. Mises [15], N. Smelzer [16], T. Schultz [17] and others.

The basis of human resources is the highly qualified personnel who are formed after completing postgraduate and doctoral studies at higher educational institutions. The levels of formation of highly qualified personnel can be seen in Fig. 1

## 2. The analysis of system of training of the highest specialization in Russia

Basis of personnel potential are shots of the top skills which are formed after training in a postgraduate study and doctoral studies of higher educational institutions. Levels of formation of shots of the top skills can be seen in fig. 1.

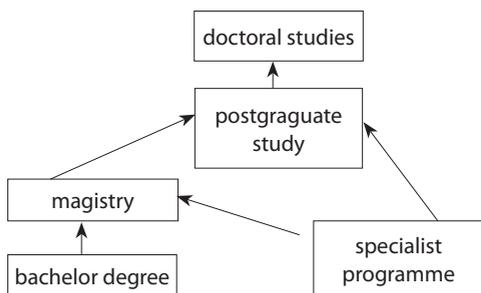


FIG. 1 – Levels of training of scientific shots of the top skills at the higher school.

The first level of education is baccalaureate. This is a completed higher education, which lasts 4 years and implies the fundamental training of the student. At the end of this stage of education, the student defends the final qualification work with the qualification “Academic Bachelor” or “Applied Bachelor”, after which he can start working or continue his studies at the magistracy. In accordance with the skill level for professional standards - this is the 6th level.

Today in our country there is still such a level of education in many higher educational institutions as a specialty - the second level of education. Its difference from the baccalaureate is that it guides students to practice in the chosen industry. Training lasts for 5 years and ends with the protection of the final qualifying work with the assignment of a certain qualification of the specialist. After this, a graduate can start working or continue studying in a master's or graduate school. According to the level of professional standards, the specialist has a greater variability than the bachelor degree - 6, 7 and 8 skill levels.

The second level also includes the Master's program, which allows the student who decided to continue his studies to deepen his knowledge in the chosen specialization. At this stage, as mentioned earlier, bachelors and specialists can continue their studies. The training lasts at least two years and provides for the training of the student for research and development. Graduates defend a master's thesis with the assignment of qualification "Master". The master's level of qualification of professional standards is positioned already higher than the specialty and applies already to the 7th and 8th levels.

The third level of training highly qualified personnel is postgraduate study. The very level at which the training of scientific and pedagogical personnel takes place. Graduates of a master's degree or specialty can continue their education in graduate school. Training at this level involves the educational part, pedagogical and research activities. The graduate student must determine for himself the scientific direction and subject of research. Full-time education at the level of postgraduate studies lasts at least 3 years, on correspondence courses for 4 years. Upon completion of the postgraduate course, the qualification "Researcher. Teacher-researcher ». The pre-defense of the candidate's dissertational research should take place during the period of study, and the defense of the thesis within a year after the end of the term. Such protection is deemed to have taken place on time. After the successful defense of the dissertation the degree of candidate of sciences is conferred. Candidates of science are further admitted to the degree of Doctor of Science, the second degree, which confirms the status of a scientist. This level of higher education correlates with the highest level of qualification - 9.

Carrying out a thorough analysis of the levels of the higher educational system in Russia, we correlate these levels with the developed levels of qualification that serve to develop professional standards (Fig. 2). For each level of qualification we will define the official level in accordance with the prescribed functional duties.

Analyzing Fig. 2, it can be seen that the requirements for the availability of higher education start only at level 6. We gave conditional names to groups of posts that belong to different levels of qualifications. As a result of this grouping, several groups were formed with the mandatory requirement for the presence of higher education. Graduation clearly shows that the requirement for the availability of higher education concerns only managers of different levels.

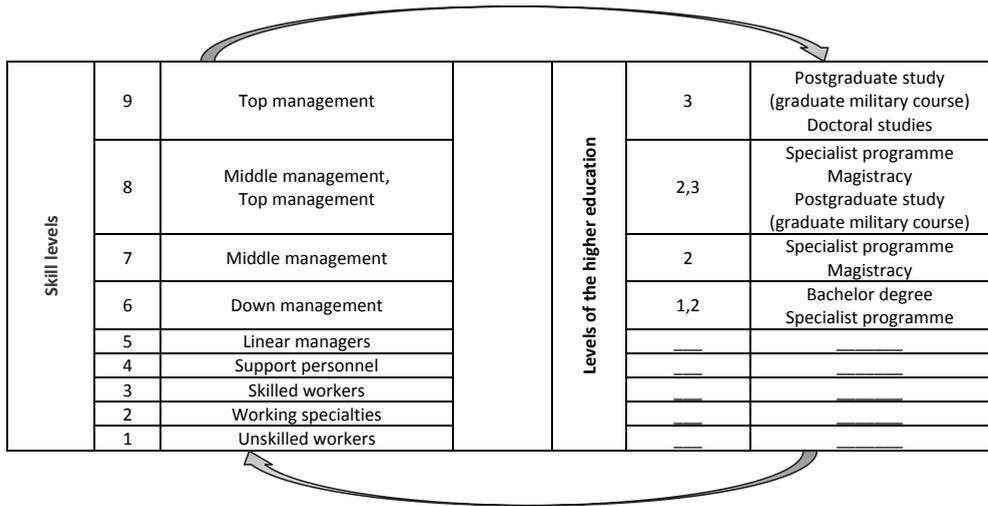


FIG. 2 – A ratio of skill levels with levels of the higher education (composed by authors.)

Returning to the problem of reproduction of highly qualified personnel, we will analyze the classification of posts in relation to higher educational institutions. They can be divided into the following categories: scientific and pedagogical (faculty, scientists); engineering and technical; administrative and economic; production; teaching and support and others; medical and other [16].

In the educational process, personnel participating in the faculty members participate. For these positions in January 2017 the professional standard “Teacher of vocational training, vocational education and additional vocational education” entered into force, which is also provided for the posts of the teaching staff of the higher school. For its development, the method of functional analysis of the teacher’s activity was applied. In view of the increased requirements for the adaptability and professional competence of teachers, this document was also drawn up.

In the professional standard “Teacher of vocational training, vocational education and additional professional education” all positions of the teaching staff are ranked from 6 to 8 qualification levels. The 8th level includes scientific personnel who are engaged in the reproduction of highly qualified personnel.

Applying the ranking according to the Nomenclature of the positions of the pedagogical staff of organizations engaged in educational activities and the positions of the heads of educational organizations [16], we will implement their correlation with the levels of qualification and the level of education, and also present for each position of the teaching staff the corresponding official level, taking into account the functional duties.

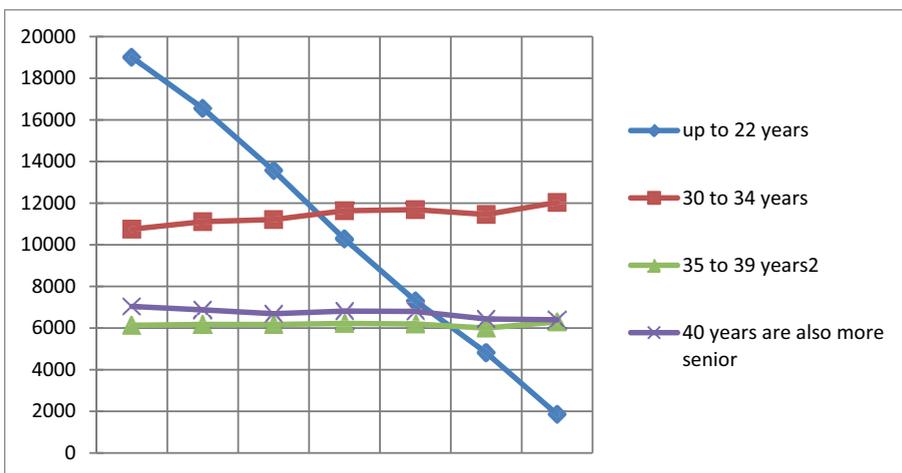
The results of the analysis of Table. 1 may surprise - the variation in qualification levels is so great in some cases, if one does not sufficiently study the professional standard. It should be borne in mind that the requirements of professional standards are focused

TABLE 1. A ratio of positions of faculty with levels of qualifications and education levels (composed by authors)

Faculty position	Skill level according to the professional standard	education level	Official level taking into account functional duties
Assistant	6,7	1,2	Down management Middle management
Dean of the faculty	8	3	Middle management Top management
Director (chief) of the institute	8	3	Middle management Top management
Associate professor	6,8	1,2,3	Down management Middle management Top management
Head of the department (chief of department)	8	3	Middle management Top management
Deputy chief of department	8	3	Middle management Top management
Professor	8	3	Middle management Top management
Lecturer	6,7	1,2	Down management Middle management
Senior lecturer	6,7	1,2	Down management Middle management

on practical-oriented labor functions, while educational standards have a broader focus. Also do not forget that in Table 1 we are considering posts, not ranks.

For a more detailed understanding of the situation regarding the training of highly qualified personnel, it is necessary to analyze the distribution of the number of graduate



Source: Federal State Statistics Service of the Russian Federation

FIG. 3. Distribution of number of graduate students on age groups, the people

students by age group. The given analysis will allow to see dynamics of sharp reduction of the staff of the higher qualification as a whole and on separate age categories (fig. 3):

A sharp decrease in the number of graduate students can be observed at the age of 22, inclusive. At the same time, a slight upward trend was observed in 2016 in the category of 30 to 34 years. We associate this phenomenon with the requirements of professional standards for the replacement of top management posts and the understanding of this age category that without getting a third level of education, promotion on the career ladder will be impossible.

Applying a comparative analysis of the main indicators of postgraduate work, you can identify the following trends (Table 2).

Compared to 2010, in 2016 there is a marked reduction in the number of organizations that can train graduate students by 18%, which could not affect the total number of post-graduates and admission to graduate school - a reduction of 38% and 52% respectively. Despite such a significant reduction in indicators, the graduate school graduate output was not so critical - by 21.7%.

The effectiveness of training scientific personnel is to defend the thesis, which is a confirmation of the existence of the necessary competencies for further scientific and pedagogical activities. In this regard, a significant reduction in the indicator “Graduation from the graduate school with the defense of a dissertation” (by 62%) in 2016 compared with 2010 clearly indicates that in the process of forming the human resources potential of science, a significant need for its reform has arisen.

The highest step in the system of training of scientific and pedagogical personnel is doctoral studies. We will perform a comparative analysis of the main indicators of doctoral studies (table 3).

**TABLE 2. The main indicators of postgraduate work**

Years	Number of organizations, leading postgraduate students, units	The number of graduate students, persons	Admission to graduate school, persons	Graduation from the graduate school, persons	
				total	out of him with the defense of the thesis
Educational organizations of higher education					
2010	748	139908	48748	29268	8854
2011	750	139542	45561	28847	8869
2012	740	131226	40802	30885	8480
2013	724	117790	34643	30639	8257
2014	698	107083	29700	24836	4770
2015	661	97847	28285	22971	4318
2016	611	87180	23281	22917	3379

Source: Federal State Statistics Service of the Russian Federation

TABLE 3. The main indicators of doctoral activities

Years	Number of organizations conducting training for doctoral students, units	Number of doctoral students, persons	Admission to doctoral studies, persons	Graduation from doctoral studies, persons	
				total	out of him with the defense of the thesis
Educational organizations of higher education					
2010	407	4116	1548	1162	316
2011	412	4256	1589	1220	365
2012	410	4296	1543	1271	378
2013	398	4307	1471	1281	314
2014	372	3009	143	1281	217
2015	345	1853	373	1319	173
2016	303	825	368	1270	143

Source: Federal State Statistics Service of the Russian Federation

Similar to the analysis of the basic indicators of postgraduate work, all indicators of the main activities of doctoral studies are also reduced in 2016 compared with 2010:

- the number of organizations leading the training of doctoral candidates - by 25.6%;
- number of doctoral students - 80%;
- admission to doctoral studies - 76%;
- graduate from doctoral studies with thesis defense - by 55%.

The process of reduction is also in relation to dissertational councils. This restriction also affects the reduction of defense of dissertational research, which in the future will affect the replacement of leadership positions, taking into account the requirements of professional standards.

The education got in higher educational institutions forms competences which considerably exceed requirements to knowledge and abilities of the worker in a concrete workplace. The higher education forms the cogitative system of the person, enriching it with the philosophical and methodological knowledge giving an opportunity to define the purposes, tasks, to make decisions, and not just to perform specific actions in production. Therefore it is important that process of interface of professional and educational standards didn't emasculate essence of the higher education.

For carrying out the comparative analysis of requirements of professional standards to requirements which are determined by federal standards of educational system of the higher education of level of a postgraduate study by the direction of training 38.06.01 "Economy", a training profile "Accounting, statistics" we will use the approved professional standard of the financial market: "Accountant". Competence-based approach to the description and assessment of professional activity of the expert of the financial market which determines qualification levels of readiness for performance of accounting activity and also success of her performance is the basis for this professional standard.

For more detailed understanding of an agreement of professional and educational standards it is comparable their some characteristics (tab.4):

**TABLE 4. The comparative analysis of requirements of the professional Accountant standard with necessary education level (composed by authors)**

code	Group of positions	Level of professional qualification	Level of the higher education	Requirements to experience of practical work
Professional Accountant standard				
A	accountant	5	-	By special training on account and control there are not less than 3 years
B	chief accountant	6	1	Not less than 5 years from the last 7 calendar years of the work connected with conducting accounting, etc.; in the presence of the higher education – not less than 3 years from the last 5 calendar years.

Apparently from these tab. 4, for implementation of the requirements enshrined in the professional Accountant standard there is no need of obtaining the top skills.

If to consider all already approved professional standards of the financial market concerning the requirement of receiving the highest step of education, then it is possible to see the following (table 5):

**TABLE 5. The comparative analysis of professional standards of experts of the financial market concerning requirements of levels of professional qualifications and the higher education (composed by authors)**

The generalized job title according to the professional standard	Level of professional qualification	The fixed requirement in the professional standard to obtaining the top skills
Expert in payment service providers	6, 7	-
accountant	5, 6	-
Specialist in microfinancial transactions	5, 6, 7	-
Expert of securities market	6, 7, 8	+
insurance broker	6, 7, 8	+
Specialist in internal control (internal controller)	5, 6, 7, 8	+
Specialist of treasury of bank	6, 7, 8	+
Specialist in financial consultation	6, 7	-
Specialist in factoring operations	6, 7, 8	+
Internal auditor	6, 7	-
Specialist in mortgage lending	6	-
Specialist in insurance	6, 7, 8	+
The specialist in operations in the interbank market	5, 6, 7	-

The generalized job title according to the professional standard	Level of professional qualification	The fixed requirement in the professional standard to obtaining the top skills
Arrears specialist	5, 6	-
Specialist in corporate crediting	6	-
Specialist in a credit brokerage	5, 6, 7	-
Specialist in operations with precious metals	5	-
Specialist in risk management	6, 7, 8	+
Specialist in consumer crediting	5, 6	-
Pledges specialist	6	-
The specialist in financial monitoring (in the sphere of counteraction of legalization of income gained in the criminal way and to terrorism financing)	6, 7, 8	+
Statistician	4, 6, 7	-
Auditor	4, 6, 7	-
The expert in the sphere of purchases	6, 7, 8	+
The expert in estimated activity	5, 6, 7, 8	+
The expert in the sphere of purchases	5, 6, 7, 8	+
Specialist in payment services	4, 6	-
Actuary	6, 7	-
The expert in the organization of the personified accounting of the pension rights of the insured persons	6, 7, 8	+
Expert in the organization of administration of insurance premiums	5, 6, 7, 8	+
Expert in the organization of appointment and payment of pension	6, 7, 8	+
Expert in the organization and establishment of payments of social character	5, 6, 7, 8	+
Specialist in remote bank service	5, 6, 7	-
Specialist in leasing activity	4, 5, 6, 7	-

Only 15 of the 34th approved professional experts of the financial market of the standard impose requirements to education at the level of a postgraduate study.

The carried-out analysis of the existing educational standards has shown that they not fully meet the requirements put in professional standards.

## Conclusions

The introduction of professional standards makes it possible to achieve greater labor productivity, improve the quality of education services, reduce the costs of recruiting scientific personnel and strengthen the university's competitiveness. In the professional standard of the teacher of the higher school in detail, what knowledge and skills of

work are necessary for the modern specialist. It is a structured document containing the basic requirements to the knowledge, skills and skills of the employee that will allow to perform qualitatively a certain labor function. This document will allow the higher educational institution to build its strategic personnel policy, especially with regard to the training of highly qualified personnel.

The professional standard also enables the HR services of the organization to make the most flexible and reliable job descriptions for each employee, taking into account the labor functions performed by him.

Simultaneously with all the advantages of professional standards, their implementation entails a change in the educational standards for the training and retraining of highly qualified personnel. There are new requirements for the professionalism of graduates, which inevitably lead to the need to develop new approaches to teaching, which makes it necessary to involve students in the assessment of the quality of teachers, to strengthen project activities in the educational process, and to solve the problems of motivating teachers.

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