Reforming higher Professional Education in Russia in changing Geopolitical conditions

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Abstract. During the period of work of Russian universities according to the rules of the Bologna system, the quality of higher education has decreased. The discrepancy between the training programs for students and the current and future needs of the labour market of specialists has aggravated. The accumulated problems became the basis for reforming higher education in Russia. Methods of induction, comparative and content analysis of the reasons for changes in the education of students in undergraduate and graduate programs from 2002 to 2020. installed. Strategic documents and practical results of the activities of universities have been studied. The analysis of official sources of information and scientific publications of domestic and foreign authors revealed problem areas in the training of specialists by Russian universities. The key role of higher education in the reproduction of human intellectual capital has been proven. Recommendations for improving the organization of the educational process and resource support for the training of students at various levels of ISCED-2011 have been formulated.
Keywords: human capital, state policy, training of qualified personnel, university potential.

1 Introduction

1.1 Background of the study

The innovative focus of scientific and technological development initiates changes in the personnel training system. Qualitative innovations in production and services increase the requirements for the higher education system. Science and education, recognized as drivers of progress, replace "spontaneous economic development with conscious and goal-setting human activity" [1, p. 27].

In the 21st century, the Bologna system of education has spread in European countries and other regions of the world. Its distinctive features are unified learning standards and a strive for the unification of educational systems. However, the principles of the Bologna Process contradict the aspirations of original education systems in different countries, which advocate for the preservation and development of their own ideas about the values and priorities of educational activities. The Russian higher education system, which developed in the second half

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of the 20th century, has proven its effectiveness in practice. The Minister of Education and Science of the Russian Federation, V.N. Falkov, stated that the Bologna system should be regarded as a "completed stage," and the future of Russian education lies with "our own unique system" that should serve the interests of the national economy and provide "maximum space for each student" [2].

1.2 Review of the theoretical basis of the research:

The current state and problematic issues of the development of higher professional education, the dynamics of educational potential of the population of Russia, and the specifics of the transition to the Bologna system are reflected in scientific publications [3; 4; 5]. Various types of human potential (personal potential, group potential, potential of different social communities, human potential of the entire population of the country) and its components are analyzed in detail: demographics, education, health, labor, culture, spirituality, morality, citizenship, and network interaction [6]. Special attention is paid to differentiating between quantitative and qualitative characteristics of the population, the legitimacy of identifying human potential with the concept of "population quality," and assessing the level of economic and social living conditions [7]. The problems of forming and accumulating educational potential for its subsequent implementation in labor and social activities are thoroughly examined. The topic of the increasing role of education in shaping human potential in the context of digital transformation is discussed [8; 9; 10]. Emphasis is placed on the need to enhance the fundamentality of education and expand admissions to universities based on the STEM education model (Science, Technology, Engineering, Mathematics), which integrates natural sciences and engineering subjects [11; 12; 13].

2 Materials and Methods

To substantiate measures for improving the system of higher professional education in Russia in changing geopolitical conditions, comparative and content analysis methods were applied, along with the tools of the inductive method.

The research hypothesis assumes that a well-founded selection and coordinated application of methodologies, technologies, and instruments of state regulation will allow for the formation of adequate forms and teaching methods that meet the established requirements. The application of these methods will contribute to the transformation of the organization of higher education and will determine the ultimate results of educational institution reform.

The aim of the research is to identify a set of measures whose coordinated application by actors in the field of higher professional education will significantly improve the quality of specialist training in universities amid changing realities.

The research tasks to achieve this goal are as follows: 1) base the research on official information sources (normative legal acts, data from the Federal State Statistics Service); 2) determine the factors influencing the activities of higher education institutions; 3) establish the extent of their impact on the final outcome of university activities, which is the production of qualified specialists and its compliance with the volume and structure of the economy's needs; 4) rank the obtained results according to their degree of influence on the activities of higher education institutions; 5) systematize the identified patterns and prepare recommendations for the application of the proposed tools for the purposes of management and financial regulation.

3 Results

In the 1990s-2000s, the training of students in Russian universities was primarily conducted

based on a list of higher professional education specialties. There was an increase in the number of students enrolled in specialist programs: from 4,751.4 thousand people in 2000 to 7,049.8 thousand people in 2010, which is a growth of 48.4%. The specific indicators were also remarkably high (the number of students per 10,000 population): 324 students in 2000 and 495 students in 2010, indicating a growth of 52.8% [14, p. 134].

The formation of the Bologna System, based on unified and standardized teaching standards, began in 1999 with the adoption of the "Bologna Declaration" by the Ministers of Education of 29 European countries. In 2003, the Russian Federation, by signing the Bologna Declaration, joined the unified European Higher Education Area. The Bologna System implies education through bachelor's degree programs (four years) and master's degree programs (two years). Russia's transition to the Bologna Process was gradual and was completed in 2011. As of the beginning of 2022, 49 countries from different regions of the world were participating in the Bologna Process. In the 2010s, bachelor's degree programs took the leading positions in the admission structure of Russian universities.

Table 1. Admission and graduation of students in Russian universities based on higher education programs (MSCO-2011, levels 6, 7)*

	Bachelor	Speciality	Master	Altogether
Admission of students, ths. people / % of total				
2011 year	978,9 / 81,8	143,1 / 11,9	76,3 / 6,3	1207,3 / 100,0
2015	866,6 / 70,9	147,7 / 12,1	207,5 / 17,0	1221,8 / 100,0
2020	707,3 / 64,7	166,0 / 15,2	220,1 / 20,1	1093,4 / 100,0
Output of specialists, thousand people / % of total				
2010	126,6 / 8,6	1315,0 / 89,6	26,3 / 1,8	1467,9 / 100,0
2015	589,8 / 45,3	633,3 / 48,7	77,4 / 6,0	1300,5 /100,0
2020	558,8 / 65,8	105,4 / 12,4	185,2 / 21,8	849,4 / 100,0

*Source: Note. Compiled by the author according to: [14, p. 153; 15, p.192; 16, p. 204].

Based on the analysis of the data in Table 1, changes in the structure of student education in higher education have been identified. Until 2011, the main form of education was the specialist degree (5-6 years). After 2011, the specialist degree was retained only for disciplines of special social and state significance, such as medicine, high-tech sectors, fundamental research, and some others. Priority in enrollment was given to the preparation of bachelor's and master's degree students using the two-level model of higher education: bachelor's degree (4 years) followed by a master's degree (2 years). During the period from 2011 to 2020, admissions to universities decreased by 9.4%, including a 28.4% decrease in bachelor's degree programs, a 16.0% increase in specialist degree programs, and a 2.9-fold increase in master's degree programs.

Significant changes occurred in the dynamics and structure of student graduation by the level of obtained diplomas during the 2010s. Despite an overall decrease in the number of graduates by 42.1% during the period under consideration, the number of bachelor's degree graduates increased by a factor of 4.6 and the number of master's degree graduates increased by

a factor of 7. However, the proportion of students qualifying as "specialists" decreased significantly by a factor of 12.5 (see Table 1).

The advantages and disadvantages of the Bologna Process have had an impact on the education of students in Russian universities [17], which can be summarized in one phrase: "The practical implementation of this system has provided significant positive experience, especially in terms of educational process technology. However, it has not been successful in achieving its main nominal goal of raising the level of education" [18]. Extensive work has been done to prepare and modify the Federal State Educational Standards, as well as to establish a system for licensing and accrediting universities. The quality of specialist training in the bachelor's degree program has been negatively affected by characteristic features of the Bologna System's "4+2" model: the absence of specific specialties and indications of particular qualifications, strict regulation of study hours for disciplines, reduction in specialized training, and lack of grounds for granting graduates additional qualifications.

4 Discussion

In 2022, a new stage of reforming the higher education system began in Russia. Under the influence of changes in the geopolitical situation, the government authorities set ambitious long-term goals. The key vectors of universities' work are innovative technologies, an individual approach to students, and the development of their creative abilities. In the face of emerging trends towards reglobalization, the activities of higher education institutions are recommended to be aligned with regional integration processes in global development. Summarizing the positions of prominent scientists and expert opinions allows formulating the conceptual guidelines of the new educational policy. This includes the development of principles characteristic of Russian education: interdisciplinarity, a balance between the fundamental nature of education and the applied skills acquired by students, the unity of scientific research and teaching, diverse forms of education, flexibility in educational and professional trajectories, and the opportunity to acquire additional qualifications.

The plans of higher education institutions include expanding education programs for specialists (5-6 years) to work in high-tech and socially significant industries of the economy. "Specialist personnel are in high demand in the field of jurisprudence and law enforcement agencies. Fundamental legal training is only possible within the framework of specialist programs," noted the Chairman of the Investigative Committee of Russia, A.I. Bastrykin [19]. Science-intensive sectors are expected to offer education based on an integrated master's model, which has been tested at Moscow State University named after M.V. Lomonosov [20]. Individual educational trajectories and intra-university student transfers, as well as flexible educational programs based on the "2+2+2" system, are expected to become widespread.

However, the higher education system still faces challenges: insufficient funding compared to a number of developed and developing countries worldwide, unsatisfactory resource provision of remuneration and social guarantees for academic and research staff, uneven quality of training scientific and pedagogical personnel across industries and higher education institutions, and a serious shortage of such personnel in general.

Improving the quality of higher education is closely related to the observance of its basic principles: continuity, competitiveness, continuity, flexibility, practical orientation, interdisciplinarity, academic mobility, and others. In the scientific community, discussions are underway on the effective utilization of the professional and scientific potential of organizations implementing higher education programs and intensifying the preparation of scientific and pedagogical personnel. Industry-specific universities require support as their task is to improve the qualitative parameters of students' education and the implementation of R&D projects for priority sectors of the national economy and regions of the country.

At the center of attention are the issues of long-term financial support for the "Education" sector in accordance with legislatively established procedures, increasing the prestige of the teaching profession and remuneration for academic and research staff, forming a model for maintaining mobility between levels of higher education and fields of study, and expanding opportunities for producing interdisciplinary specialists in demand by regional economies.

5 Conclusion

Human capital is considered a key resource for maintaining high rates of economic growth and preserving the competitiveness of economic entities in both domestic and international markets. The issues of building a skilled workforce in knowledge-intensive industries are relevant. Higher education generates opportunities for the multifaceted development of individuals and their active engagement in activities aimed at meeting various societal needs.

It is necessary to differentiate between direct and indirect outcomes of educational activities. The training of qualified specialists for the national economy (a direct outcome of higher education) creates significant impulses for production efficiency, motivates organizations to strive for leadership, and enhances the competitiveness of goods and services produced. Indirect outcomes have a societal resonance and manifest through social innovations and improvements in the quality of life for members of society, ultimately contributing to the development of human capital.

The new educational policy of the Russian state is based on legislative and regulatory documents and the principle of systematicity, according to which the management of higher education is a subsystem within the overall education and science management system. The prospects of the country's economic development in the changing geopolitical conditions depend on the effective functioning of higher education institutions.

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