

Conference Paper

Development of Modern Trends in Higher and Secondary Professional School Based on Innovative Development

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Abstract

The article considers innovative processes taking place in modern socio-economic conditions in the system of higher and secondary professional education in the Russian Federation. The study points out negative factors that prevent the formation of innovative processes in the economy. They identify innovative ways of development in the system of higher and secondary professional schools and essential differences in the definition of significant trends of development. The study has defined a socially-oriented model as the most progressive model of innovative development of higher education institutions. It is the social-oriented model that allows us integrating scientific-research and professional-oriented assets creating an innovative environment in higher education. Other processes are typical for secondary vocational education, the main purpose of which is defined as providing the middle level of the Russian economy with highly skilled workers and specialists. The study has revealed that there are approach processes of the secondary vocational education system with production. Business structures are taking more active part in the organization of the educational process every year. In recent years, interregional centers of competence and vocational training centers have been created on the basis of professional educational organizations mean by innovative frameworks

Keywords: innovation, higher education, secondary vocational education, educational institutions

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Published: 21 January 2021

Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the XXIII International Conference Conference Committee.

1. Introduction

The current situation in the innovation sector of the Russian Federation is influenced by negative factors that prevent the formation of innovative processes in the economy.

The core is the presence of an insufficiently developed scientific and methodological support for the development of the Russian innovation system. Experts [1–8] have continually point out that the lack of scientific support for innovation activities has not allowed the formation of a coherent state innovation policy, even at the conceptual level. Approaches for solving this problem are developed by various structures, including

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the state, not systemic as a rule, and in some cases do not consider the country's scientific and educational assets as a basis of a knowledge economy. There is a significant decline as a result. Nowadays, a wide range of current problems is associated with innovative support in training of a competitive specialist in the conditions of transformation processes in higher and secondary professional schools in the education system.

2. Methodology and Methods

The activities of higher education institutions in the structure of new institutional entities will be directly related to the manufacturing sectors, and the scientific and manufacturing infrastructure, combined in an integrated complex (integration), will allow us, on the one hand, maintaining a high intellectual and research assets, and, on the other hand, providing training of competitive specialists.

Similar processes are taking place in the system of secondary vocational education. However, taking into consideration the fact that secondary vocational education is now generally accessible in the Russian Federation, most educational institutions of the secondary vocational education system, in addition to profession-oriented occupations, are under the necessity to open other programs of study that can be implemented on an off-budget basis. In addition, it is necessary to take into account the role of the movement "Young professionals of Worldskills Russia", whose participants have the opportunity to qualitatively change the material and technical support of the educational organization, that has a direct influence on the quality of graduate training, which is possible with the help of grant system [9].

3. Discussion of the Results

Training based on innovative approaches is the basis of a new socially-oriented model. As a rule, this model is more rational, first of all, due to the integration of research and professional-oriented reality of the innovative environment. An example is major research universities in Saint-Petersburg, Kazan, Chelyabinsk, and other research and development centers.

As a result, there is a distinct value- and personal-centered approach in higher education and, as a consequence, high demand for specialists.

An example of another model of universities as integrated complexes of education, science and business, is the experience-based centers of innovation and technological

development and international training, and universities created within the framework of the national project "Education" — Ural Federal University, Siberian Federal University, Southern and Novosibirsk Federal University. The purpose of such educational institutions is to train personnel for the development and implementation of major innovative projects, as well as to train the scientific elite that can develop the latest technologies in various industries. A distinctive feature of such educational institutions is specificity consideration of the activities of all subjects of the system, saving their peculiarities in the future. At the same time, the possibility of choosing an alternative and other methods for solving them is not excluded.

The current economic situation is characterized by continuous technological changes based on the promotion of innovations. This problem is significant as a whole from the point of view of the development of science in the context of the new status "Education as an innovative system" formation. In this case, the focus is on the demand for human capital. The fundamental aim today is to train demanded professional specialists who are able to work effectively in a transformational economy.

The passport of the national project "Education" (Report No. 10 of 3.09.2018) is approved by The Presidium of the presidential Council for strategic development and national projects. At the same time, the structure of the national project pays special attention to the project "Digital educational environment", the formation and final performance is envisaged by 2024.

From the position of new models of universities formation, it becomes possible to develop innovative educational programs aimed at synthesizing fundamental science and practice.

The study has shown that the promotion of innovations depends on the level of intellectual and creative activity of specialists (85–90%). It is most likely that in order to increase the competitiveness of High School, it is necessary to manage its innovative activity by formation original technologies for managing the educational process based on increasing the rational use of intellectual and creative resources of the source base.

The world experience of countries that have successfully switched to market relations (The USA, Germany, and Japan) has shown that the education is a priority and an attractive investment. These countries have established national education policies that provide the highest level of reform support. For example, in the United States, there is a program called "National education goals", which states that "education is the main indicator of life. This is the core of the economic power and security of the creative assets of science, culture and art. Education is the key to competitiveness..." [2, p. 34].

Prominent scientists note the development strategy of the Russian economy [3–5]. The effectiveness of this program is evidenced by the increased competitive ability of the American education system as evidenced by such a proxy indicator as the number of American Nobel prize winners over the past decades. Columbia University, New-York, only has 72 Nobel laureates [7].

Taking into account the structure of the state order, universities often train specialists who are not in high demand in the modern high-tech labor market, and practically do not respond to changes in the market requirements by opening new professions and programs of study. This implies the need to organize an effectively functioning division responsible for marketing educational activities of the university and communication with business entities.

We see other trends in the secondary vocational education system today. Russian President Vladimir Putin defined the direction of Russian secondary vocational education development in his message to the Federal Assembly on December 1, 2016 as follows: "we need qualified personnel, engineers, and workers who are ready to perform tasks of a new level. That is why we create a modern system of secondary vocational education together with business and organizing training for teachers of colleges and technical schools based on advanced international standards."

The Head of state has continually pointed out that engineering and working professions require the highest competence, and the system of secondary vocational education needs to be updated. At the St. Petersburg International Economic Forum plenary session, Vladimir Putin has marked the relevance of this topic: "The most important task is to update and improve the quality of secondary vocational education and strengthen its connection with production. Many regions are already actively and successfully engaged in the development of so-called dual education, when practice at specific enterprises is combined with theoretical training." "I consider it necessary," the President continued, "to summarize the experience, combine our efforts and build an integrated system of training qualified personnel taking into account the best international practices." Such system, he pointed out, should include all links: supplementary education, secondary professional and higher engineering education [9].

Within the framework of the Federal grant program for the development of education for 2016–2020 the following centers as been established: in Tyumen region — interregional center of competence (ICC) in the field of art, design and services; In Moscow region — ICC in the field of construction; in Republic of Tatarstan — center ICC in the field of information and communication technologies; in Ulyanovsk region — ICC in the field of transport and logistics services; in Chuvash Republic — ICC in

the field of industrial and engineering technologies (specialist field "automation, radio engineering and electronics»); in Sverdlovsk region – ICC in the field of industrial and engineering technologies (specialist field "mechanical engineering, management of complex technical systems, processing of materials") [9–10].

These centers are used for experimental testing of new federal state educational standards, programs, modules, methods and technologies for training personnel in the list of top-50 professions. In accordance with the set tasks two key divisions are identified in the ICC structure: the training center and the training ground. On behalf of the Ministry of Education and Science of Russia, new educational programs and Federal State Education Standards have been developed for ICC training centers, as well as new models of network interaction between Russian colleges in high-tech areas.

The country started creation vocational training centers since 2019. Vocational training center was established in the Sverdlovsk region on the basis of the Ural College of civil engineering, architecture and entrepreneurship.

Igor Superekin, Deputy Chief Executive Officer of the union "Young professionals" (WorldSkills Russia), claims: "an important indicator of the effectiveness of changes in professional education should be the results of competitions in working and engineering professions, in this regard we are developing the ICC project and the union is actively working to meet all the necessary conditions and requirements for the project implementation. Infrastructure lists were prepared and adapted to meet the requirements for the material support, and responsible international experts as well as employees of the union were appointed to organize communication between the union and the ICC. We expect that the ICC will become one of the centers for the distribution of WorldSkills standards, hosting championships and demonstration exams at its centers" [9]

4. Conclusions

The study has fixed the decline in the quality of the higher education system in Russia is the main trend over the past 10–15 years. First of all, this trend is manifested in low rating indicators of educational institutions, employers' dissatisfaction with the level of formed professional competencies of specialists and students' criticism of the teaching level. The mentioned issues will have to be solved by the higher school in order to grow in the rating of innovative activity.

Meanwhile, in recent years the system of secondary vocational education has been rapidly developing, both in terms of content and in terms of updating the material and technical support. Trends in professional educational organizations show that the

requirements of the modern labor market as well as the requirements of employers for graduates of the system are taken into account.

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