TOOLS FOR THE DEVELOPMENT OF THE REGIONAL SYSTEM OF SECONDARY VOCATIONAL EDUCATION

INTRODUCTION

The system of secondary vocational education plays an important role in the processes of socio-economic development of the region, as the availability of personnel with the required qualifications largely affects economic development.

The system of secondary vocational education has undergone significant changes in recent years. The changes are due to the appearance of new strategic documents, changes in the structure of the state order, the transformation of educational programs, and the revision of federal standards.

Significant factors affecting the system of regional secondary vocational education include the development of a competitive movement that affects the quality and technology of education, the introduction of a regional standard of staffing for industrial growth, the digitalization of education and its management, a fundamental change like the interaction of secondary vocational education organizations with social partners. These factors are reflected in the draft “Strategy for the development of the system of training of workers and the formation of applied period up to 2030”, presented at the meeting of the Board of the Ministry of Education of the Russian Federation on October 23, 2020. This document will determine the development of secondary vocational education for the next decade and assumes the solution of several priority tasks.

First of all, it is necessary to form a new landscape of the network of secondary vocational education organizations, which ensures synchronization of regional systems of secondary vocational education and the personnel needs of the economy of the Russian regions. To do this, it is necessary to improve the infrastructure, increase the level of material and technical equipment of colleges and technical schools, and create workshops that meet modern international standards. The strategy states the need to create small enterprises at colleges - educational and production sites where students can work in parallel with their studies, following the Labor Code of the Russian Federation. All these changes should be accompanied by an update of the content of educational programs. To implement the strategic directions for the development of secondary vocational education, it is necessary, in addition to the federal budget and the budgets of the constituent entities of the Russian Federation, to intensively use the existing infrastructure resources of secondary vocational education organizations, as well as funds from private investors, including through the implementation of the mechanism of public-private partnership.

The implementation of the objectives of the Strategy for the development of the system of training of workers and the formation of applied qualifications in the Russian Federation for the period up to 2030 requires the development and application of new organizational and economic tools for the development of regional systems of secondary vocational education. In this regard, the purpose of this study is to work out modern organizational and economic tools for the development of the regional system of secondary vocational education, ensuring the...
implementation of the development strategy aimed at providing qualified personnel to the country’s economy.

To achieve this goal, it is necessary to solve the following tasks: to analyze the trends in the development of secondary vocational education in the Russian Federation, to identify the problems of the development of regional secondary vocational education, to propose a system of management solutions aimed at the development of secondary vocational education organizations, which are tools for solving the identified problems.

The subject of this study is modern tools for managing the system of secondary vocational education. The object of the study is the regional system of secondary vocational education in the Nizhny Novgorod region (Russia).

METHODS
When forming hypotheses and setting goals, we were based on the basic provisions of the draft Strategy for the development of the system of training of workers and the formation of applied qualifications in the Russian Federation (A new strategy for the development of the secondary vocational education from 2020 to 2030).

In determining the basis for the systematization of tools for the development of the regional system of secondary vocational education, the principles of accessibility and adaptability of the education system have been used. The methodological basis of the research consisted of general scientific methods of analysis, comparison, generalization, as well as the method of observation and other statistical methods.

RESULTS
As a result of the analysis of the system of secondary vocational education in the Nizhny Novgorod region, several problems have been identified that negatively affect the provision of personnel to enterprises in the region.

Firstly, it should be noted that education is divorced from the employer. As a result, there is a discrepancy between the needs of the economy of the districts of the Nizhny Novgorod region in workers and middle-level specialists in the specialties of training in the system of secondary vocational education, a discrepancy between the qualifications and specialties of graduates of secondary vocational education and the demands of the market. According to the Territorial Body of the Federal State Statistics Service for the Nizhny Novgorod Region, the Department of Labor and Employment of the Population of the Nizhny Novgorod Region, there are currently more than 23 thousand unemployed people in the region with secondary vocational education, and at the same time, there are more than 16 thousand vacancies for persons with a secondary vocational education (POLYAKOVA, 2020). That is, the qualifications of unemployed graduates of the secondary vocational education system do not meet the needs of employers.

It should be noted that only 13.2% of students of the secondary vocational school of the Nizhny Novgorod region are trained in professions and specialties that correspond to the list of the 50 most popular, new, and promising professions in the labor market that require secondary vocational education (MAIN INFORMATION AND COMPUTING CENTER, 2020).

The inertia of the development of tools linking the directions of training students of secondary vocational education and the demands of the labor market leads to duplication of educational programs implemented by organizations of secondary vocational education of the Nizhny Novgorod region, the discrepancy between the specialty of graduates and the needs of personnel in the districts of the region. This is due to unstable relationships, the lack of a constructive dialogue between the participants of the labor market – educational organizations, businesses, potential social partners. The interaction of enterprises and educational institutions is not carried out systematically, locally, without a regulatory and unified methodological base.

Secondly, it is necessary to highlight the financial problems faced by organizations that train middle-level specialists. Cooperative relations between labor market participants – educational organizations, businesses, and social partners – are not funded. The lack of funds
for the modernization and development of the material and technical base of secondary vocational education organizations in the Nizhny Novgorod region leads to the fact that the equipment does not correspond to advanced technologies in most colleges, there is no possibility of prompt updating of the material and technical base. When graduates of colleges and technical schools come to work in modern Russian enterprises, they are faced with completely new equipment and multifunctional tasks. According to the monitoring data, 65.7 % of the machines and equipment of educational organizations are older than five years, and this indicator is at the same level in the Russian Federation. Eighteen organizations of the Nizhny Novgorod Region (17.1% of the total number) have not updated their training and laboratory and training and production equipment over the past five years. The material and technical base for the period under review was updated by more than 50% only in 21 organizations of secondary vocational education in the Nizhny Novgorod region (20.0%) (MAIN INFORMATION AND COMPUTING CENTER, 2020).

Thirdly, there is a personnel problem in the secondary vocational education system: there is a lack of managerial competencies of the heads of secondary vocational education institutions in the Nizhny Novgorod region and insufficient qualifications of the teaching staff. The lack of qualification of teachers and masters of industrial training is associated with the lack of opportunities to improve their skills and update their knowledge and skills following the current level of development of production technologies. The share of the number of full-time teachers and masters of industrial training with work experience in enterprises and organizations of at least 5 years with a limitation period of no more than 3 years in the total number of full-time teachers and masters of industrial training is 2.17%. This figure is slightly higher in the Russian Federation as a whole – 5%. Only 7.29% of teachers and masters of industrial training pass an internship or advanced training program at specialized enterprises (in Russia, this figure is at the level of 5.78) (MAIN INFORMATION AND COMPUTING CENTER, 2020).

To solve these problems, it is necessary to develop and implement organizational and economic tools that ensure the qualification of management personnel of secondary vocational education following modern requirements; compliance of specialties and content of educational programs of secondary vocational education with the requirements of the regional economy; development of the material and technical base of organizations of secondary vocational education for the implementation of the demanded areas of training, a fundamental change in funding sources.

Within the framework of this study, it is proposed to use the Fund for the Development of secondary vocational education as a tool for the development of the regional system of secondary vocational education, which allows expanding the material and technical base and reproducing human potential. The foundation can be founded by both professional educational organizations and an organization that plays the role of a coordinator for the development of secondary vocational education in the region. The Law on Non-Profit Organizations (Article 24, paragraph 4) provides for the possibility for autonomous and budgetary institutions to create non-profit organizations in the interests of achieving the goals provided for by the charter of a non-profit organization (FEDERAL LAW OF THE RUSSIAN FEDERATION, 1996). The property of the Fund for the Development of secondary vocational education is formed at the expense of voluntary contributions from organizations of secondary vocational education of the Nizhny Novgorod Region and other receipts not prohibited by law. The source of funds for organizations of secondary vocational education will be their off-budget income: it is advisable to send 20% of income from the provision of paid educational services to the fund. At present, based on data from open sources of information, it is possible to estimate the annual amount of receipts from the provision of paid services by professional educational organizations of the Nizhny Novgorod region at 400 million rubles. Thus, the annual amount of monetary assets at the disposal of the fund will be 80 million rubles. The fund’s funds will be allocated to several areas (Table 1):

- Development of the material and technical base of secondary vocational education institutions, advanced training of teachers of secondary vocational education, carrying out activities related to the development of professional skills of students in secondary
vocational education institutions, and other projects related to the development of secondary vocational education (40% of the fund’s funds).

- Creation of enterprises - social partners of institutions of secondary vocational education to create places for practical training, jobs for graduates of the system of secondary vocational education in the region (50% of the fund’s monetary assets).

- Fund management (10% of the fund’s monetary assets).

**Table 1. Distribution of monetary assets of the Fund for the Development of Secondary Vocational Education**

| Directions of spending the Fund’s resources | % of the fund volume | Approximate amount, million rubles. |
|--------------------------------------------|----------------------|-----------------------------------|
| 1. Financing of projects related to the development of secondary vocational education | 40                   | 32                                |
| 2. Establishment of small joint ventures   | 50                   | 40                                |
| 3. Fund management                         | 10                   | 8                                 |
| **TOTAL**                                  | **100**              | **80**                            |

**Source:** Search data.

Consider these directions in more detail.

1. Development of the material and technical base of secondary vocational education institutions, advanced training of teachers of secondary vocational education, carrying out activities related to the development of professional skills of students in secondary vocational education institutions, and other projects related to the development of secondary vocational education.

When making decisions on financing projects related to the development of secondary vocational education, priority will be given to projects that are aimed at updating the material and technical base of secondary vocational education organizations necessary for licensing new demanded specialties from the TOP-50 list, as well as for the development of social infrastructure of institutions secondary vocational education (ORDER OF THE MINISTRY OF LABOR OF RUSSIA, 2015). We propose to take into account the following indicators that will be achieved as a result of the implementation of projects sponsored by the fund:

- The planned increase in revenue from the provision of paid services for five years after the end of the project;
- The significance of the project results for solving the priority tasks of the region’s economic development;
- Planned opening, licensing of new specialties, including those in the top 50;
- Compliance of the educational programs aimed at the development of the project with the needs of the labor market of the region;
- Support of the project from municipalities, regional executive authorities, business (companies-potential employers);
- The amount (availability) of invested own funds for the financial support of the project;
- Compliance of the project with the profile of the educational activity of the project initiator organization, compliance of the experience of the project initiator organization with the direction of project implementation or related areas;
- Validity of the declared expenses of the initiator of the project;
- The degree of validity and detail of the project schedule and technical requirements for the results of the project;
- Expanding the opportunity for various strata and groups of the population to acquire the necessary skills and applied qualifications throughout the entire working life.
- Participation in the implementation of national projects.
2. Creation of enterprises – social partners of institutions of secondary vocational education to create places for practical training, jobs for graduates of the system of secondary vocational education in the region (50% of the fund’s monetary assets).

The second direction of investment of funds of the Fund for the Development of Secondary Vocational Education is the creation of partner enterprises of colleges. Management, organizational, legal, and economic support of the process of creating and developing small enterprises, assessing the possibilities of creating enterprises, developing business models are carried out either by the employees of the Fund or by an organization acting as a coordinator for the development of secondary vocational education in the region. Two models can be used here.

The first model: institutions of secondary vocational education of the region monthly transfer 20% of the income received as a result of extra-budgetary activities to the Fund for the Development of Secondary Vocational Education, the employees of which find out the needs of the market and decide to create an enterprise at the corresponding college or technical school. Assessing the risks and developing a business plan, employees of the Fund for the Development of Secondary Vocational Education decide to search for and attract an investor or establish an enterprise without the participation of a partner. The shares of the contribution of the Fund for the Development of Secondary Vocational Education and the investor are determined as a result of negotiations between the head of the fund and the investor, provided that the Fund for the Development of Secondary Vocational Education invests at least 25% of the authorized capital, and a private investor – no more than 75% of the authorized capital. After the start of production and at the end of the financial year, the profit of such a joint venture is distributed in proportion to the contributions of the participants (the fund and the investor).

The second model: institutions of secondary vocational education of the region monthly transfer 20% of the income received as a result of off-budget activities to the Fund for the Development of Secondary Vocational Education. In turn, the Fund for the Development of Secondary Vocational Education finds out the needs of the market and decides to create an enterprise at the appropriate college or technical school. Assessing the risks and developing a business plan, the Fund decides on the sole establishment of the enterprise at the corresponding college or technical school.

As an example, we will give the planned enterprises at colleges in several districts of the Nizhny Novgorod region: for the Perevozsky Construction Technical School, it is advisable to create a woodworking enterprise and a sewing production. It is advisable to create an enterprise for the production of metal products for an oil refinery for the Kstovsky Oil Technical School named after B.I. Kornilov. For State Budget Professional Educational Institution Vyksa Metallurgical College named after A.A. Kozeradsky, it is advisable to create an enterprise in the field of metalworking, the customer of which will be the Vyksa Metallurgical Plant. It is planned to open enterprises in the field of metalworking and clothing production in State Budget Professional Educational Institution Gorodetsky Provincial College.

**DISCUSSION**

Consider the effects of the proposed tools and the benefits that their implementation gives. The functioning of the Fund for the Development of Secondary Vocational Education will lead to the emergence of laboratories and workshops necessary for licensing new relevant specialties and the implementation of demanded educational programs. This will contribute to an increase in the amount of money received from paid educational services from the implementation of secondary vocational education programs, professional retraining, and advanced training programs. Attracting additional funding to the system of secondary vocational education will allow developing the infrastructure of educational organizations (gyms, stadiums, canteens, hostels), which in turn will lead to an increase in the number of applicants by increasing the attractiveness of training and the competitiveness of educational organizations.
The need to create a Fund that accumulates extra-budgetary monetary means for secondary vocational education is confirmed by the data from monitoring the quality of personnel training conducted in 2020. In 2019, only 4.4% of the extra-budgetary income of educational organizations was directed to the purchase of machinery and equipment (the figure for the Russian Federation is 3.4%). Only 54.3% of the total number of educational organizations in the Nizhny Novgorod Region developed their material and technical base at the expense of extra-budgetary funds. Little funding for colleges from social partners does not solve the problem of updating equipment and creating equipped laboratories. The share of expenditures on the purchase of machinery and equipment carried out at the expense of specialized organizations and enterprises in educational organizations that train personnel in the interests of large and city-forming enterprises is 3.8% (the indicator for the Russian Federation is 5.5%) (MAIN INFORMATION AND COMPUTING CENTER, 2020).

It should be noted that with the creation of the Fund for the Development of Secondary Vocational Education, it becomes possible to ensure the conduct of final certification in the form of a demonstration exam according to WorldSkills standards. This form of state final certification of graduates of secondary vocational education programs of educational organizations provides for modeling of real production conditions for the demonstration of professional skills by graduates; independent expert assessment of the performance of tasks of the demonstration exam; determination of the level of knowledge, skills, and abilities of graduates following international requirements.

The demonstration exam is conducted for each specialty competence and is an important tool for evaluating and improving the quality of education. Currently, the demonstration exam is being held back due to the lack of equipped workshops, certified experts, and financial resources to pay for consumables. Only 1.9% of employees of the educational organization of secondary vocational education in the Nizhny Novgorod region have a WorldSkills expert certificate.

There is a common situation when studying in a certain specialty, a student receives several competencies, but the demonstration exam is not conducted for all competencies due to the lack of certified experts and financial resources to pay for consumables and services of additional external experts. In this case, the demonstration exam is supplemented by the state final certification in a standard format, and the student’s skill passport does not allow the employer to assess the competence of a potential employee.

For the widespread use of such a tool for the development of secondary vocational education as a demonstration exam, it seems expedient to build several centers financed by the fund in which workshops will be located that will allow passing demonstration exams in a certain group of competencies, as well as retraining citizens in new modern specialties. This makes it possible to create conditions for the implementation of Presidential Instruction No. 580 of March 6, 2018, on the joint use by professional educational organizations of modern equipment for training, retraining, and advanced training of citizens in the most popular and promising professions at a level that meets the WorldSkills standards. To implement this task, financing is needed, the source of which can be the Fund for the Development of Secondary Professional Education.

Speaking about the second direction of the Fund’s activities – financing the creation of partner-enterprises, it is necessary to note the importance of this activity not only for the employment of graduates of the secondary vocational education system, the development of the regional economy but also for improving the quality of training in educational organizations. The need to implement a dual model of training highly qualified personnel together with enterprises of the real sector of the economy is emphasized by the Agency for Strategic Initiatives (2015), which is reflected in the methodological recommendations. The proposal to create partner enterprises at colleges was announced at the expert session “Effective College - Training Plant”, held by ASI in December 2020 as part of the “College - Mini-Plant” project. In 2021, ASI plans to support the leadership project “Small Business Enterprises based on colleges” and include the most successful practices in it," after which it will prepare a package of legislative initiatives that will allow colleges to carry out production activities on an equal basis with other enterprises.
CONCLUSION

The use of the tools proposed in the article allows transforming the regional system of secondary vocational education and providing training for personnel with secondary vocational education following the needs of the region’s economy. The tool considered in detail in the article - the regional fund for the development of secondary vocational education solves the problem of lack of funds to update the outdated material and technical base, which hinders the licensing of new specialties that correspond to the top 50 list, as well as the high-quality implementation of existing programs, which accumulates funds at the disposal of educational organizations and finances projects on a competitive basis, subject to co-financing from educational organizations.

This fund accumulates monetary means from institutions of secondary vocational education, manages them, making decisions on supporting projects aimed at developing and maintaining the material and technical base of secondary vocational education, increases the number of funds for the development of secondary vocational education by generating income from the activities of enterprises created at colleges; contributes to the socio-economic development of regions through the creation of new jobs and the launch of new industries.

The concentration of resources in the Fund reduces dependence on budget financing (which is especially important in the context of an economic downturn); creates an opportunity to increase the material and technical base of secondary vocational education institutions - equipping laboratories and workshops for new specialties; contributes to the development of the infrastructure of secondary vocational education institutions (gyms, stadiums, canteens, hostels), which serves to increase the attractiveness of education in the eyes of applicants. All this will contribute to ensuring a flexible response of the education system to changes in the need for personnel at enterprises, providing high-tech industries with personnel for cross-cutting working professions based on international training standards.

The creation of partner companies at colleges will not only contribute to the employment of graduates of the secondary vocational education system, the development of the region’s economy by creating new jobs, but also improve the quality of education by training personnel for specific technological processes of the enterprise, reducing the time of adaptation of graduates at the enterprise. This activates the updating of the content and technologies of secondary vocational education following the current and future requirements for the qualification of employees, the development of technologies.

The income from the activities of enterprises created by the Fund for the Development of Secondary Vocational Education will be directed, in turn, to the development of colleges and the creation of new enterprises. Thus, there is an increase in the number of funds allocated for the development of secondary vocational education in the region.

In addition, the use of the development tool proposed in the article by the regional system of secondary vocational education will lead to an increase in the competitiveness of educational organizations, expansion in the number of applicants in the secondary vocational education system by increasing the prestige of the profession.

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Tools for the development of the regional system of secondary vocational education

Ferramentas para o desenvolvimento do sistema regional de educação profissional secundária

Herramientas para el desarrollo del sistema regional de formación profesional secundaria

Resumo
A partir da análise dos problemas que restringem o desenvolvimento da educação profissional secundária, o artigo propõe ferramentas para o desenvolvimento do sistema regional de ensino profissionalizante secundário, o uso que contribuirá não só para a melhoria da qualidade da educação profissional secundária na região, mas para o desenvolvimento socioeconômico dos distritos, criando novos empregos e lançando novas indústrias. A atenção especial foi dada à criação do Fundo de Desenvolvimento da Educação Profissional Secundária, que financia projetos voltados à atualização do material e da base técnica, ampliação dos recursos humanos e também à criação de empresas parceiras nas faculdades.

Palavras-chave: Ensino profissional. Desenvolvimento. Sistema regional de ensino profissional. Gestão.

Abstract
Based on the analysis of the problems that restrain the development of secondary vocational education, the article proposes tools for the development of the regional secondary vocational education system, the use of which will contribute not only to improving the quality of secondary vocational education in the region but to the socio-economic development of districts by creating new jobs and launching of new industries. Special attention has been paid to the creation of the Secondary Vocational Education Development Fund, which finances projects aimed at updating the material and technical base, expanding human resources, and also establishes partner companies at colleges.

Keywords: Secondary vocational education. Development. Regional system of secondary vocational education. Management.

Resumen
Sobre la base del análisis de los problemas que frenan el desarrollo de la educación profesional secundaria, el artículo propone herramientas para el desarrollo del sistema regional de educación profesional secundaria, cuyo uso contribuirá no solo a mejorar la calidad de la educación profesional secundaria en la región, sino también al desarrollo socioeconómico de los distritos mediante la creación de nuevos empleos y el lanzamiento de nuevas industrias. Se ha prestado especial atención a la creación del Fondo de Desarrollo de la Educación Profesional Secundaria, que financia proyectos destinados a actualizar la base material y técnica, ampliar los recursos humanos y también establecer empresas asociadas en las universidades.

Palabras-clave: Educación profesional secundaria. Desarrollo. Sistema regional de educación profesional secundaria. Gestión.