

Prospects for the development of vocational secondary education in the conditions of the Far North (Republic of Sakha-Yakutia)

Perspectivas para el desarrollo de la educación secundaria profesional en las condiciones del Extremo Norte (Sakha-Yakutia)

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Contents

1. Introduction
 2. Materials and Methods
 3. Literature Review and Results
 4. Discussion
 5. Conclusions and Recommendations
- Bibliographic references

ABSTRACT:

The article analyses the activities, identifies the main trends, and forecasts the development of the Vocational Secondary Education (VSE) System in the Far North. The study identifies the leading indicators for assessing the condition and dynamics of the VSE system development in the Republic of Sakha (Yakutia). The article highlights the parameters affecting the VSE system development, its availability, and quality. Besides, it identifies the parameters that are specific to the activities of VSE establishments.

Keywords: The Far North; Vocational Secondary Education; Development Prospects

RESUMEN:

El artículo analiza las actividades, identifica las tendencias principales y pronostica el desarrollo del sistema de educación secundaria profesional (VSE) en el extremo norte. El estudio identifica los indicadores principales para evaluar la condición y la dinámica del desarrollo del sistema VSE en la República de Sakha (Yakutia). El artículo destaca los parámetros que afectan el desarrollo del sistema VSE, su disponibilidad y calidad. Además, identifica los parámetros que son específicos de las actividades de los establecimientos de VSE.

Palabras clave: Lejano Norte; Educación Secundaria Profesional; Perspectivas de desarrollo

1. Introduction

The Republic of Sakha (Yakutia) is the largest region of the Russian Federation (3,103.2 thousands kms²), Occupying almost one-fifth of the entire territory of the country. The

Republic unites thirty-five administrative districts Uluses and three cities (Yakutsk, Neryungri, and Mirny). Competitiveness, development potential and investment attractiveness of a country or region in a modern economy are primarily determined by the quality of labor resources, which, in turn, is based on the quality of educational services provided. Our work is aimed at exploring the prospects for the development of organizations of vocational secondary education in the conditions of the Far North for this, it is necessary to determine its basic concepts. First of all, consider the notions of "vocational secondary education" and "the Far North." According to official terminology, vocational secondary education (VSE) is the level of vocational education, which is aimed at training practitioners and middle-level workers for all sectors of the economy. Training is carried out by basic (after grade 9), secondary (complete) general (after grade 11) or basic vocational education (Usova, 2004).

According to the vocabulary of vocational guidance and psychological support, vocational secondary education is aimed at training mid-level specialists, satisfying individual needs in deepening and expanding education by basic general, secondary (full) general or primary vocational education (Mescheryakov, 2004).

According to the pedagogical terminological dictionary, vocational secondary education is the level of education acquired, as a rule, by complete or incomplete general secondary or primary vocational education in vocational secondary education (Barinova, 2011).

The Russian pedagogical encyclopedia defines vocational secondary education as the level of education acquired, as a rule, by a complete or incomplete general secondary in relevant professional educational institutions. It provides the individual with the knowledge, skills, and abilities necessary for independent living (Bim-Bada, 2002).

The notion of "Far North" has many options. Wikipedia gives the following explanation. The Far North is a part of the Earth's territory, located mainly to the north of the [Arctic Circle](#). The climate in some areas is extremely harsh. The territory of the Far North is the [Arctic zone, tundra, forest-tundra](#) and areas of northern [taiga](#). The notion of the "Far North" in Russia is a group of concepts with a diffuse spatial localization, depending on the purpose of the review. For example, for normative regulation of benefits and compensation to employees living in areas with a harsh climate, a certain territory of the Far North (and equal areas) is allocated. At the same time, in order to regulate the [northern delivery](#), the territory of the Far North is determined by the "List of districts of the Extreme North and equated localities with limited delivery times for goods (products)" and does not coincide with the above territory: there are areas and localities that are included in only one of these lists (Wikipedia, 2018).

According to the Mountain Encyclopedia, the Far North is the northern marginal part of the territory of Russia, located mainly in the Arctic (i.e., limited from the south to the Arctic Circle, located at 66° 33' north latitude). Due to the difficulty of the economic development of a number of remote regions of the European North, Siberia, and the Far East, privileges are established for them, established for state, cooperative and public organizations of the Far North, and thus a number of territories south of the North Polar Region are conditionally equated to the Far North circle (Wikipedia, 2018).

2. Materials and methods

A general methodological requirement for the monitoring toolkit at the development stage was designed: the use of complementary methods of data collection and analysis; the combination of the results of using qualitative and quantitative research methods within a single system of indicators; secondary analysis of previous studies. In the course of the monitoring study of the indicators of the development of the VSE system, the leading indicators for assessing the state and dynamics of the VSE system development in the Far North were identified. Statistical and other data series allowed defining indicators that allow assessing the current state and direction of development following the tasks defined by the Program for modernization of the VSE system of the Republic of Sakha (Yakutia). The article highlights the parameters affecting the development of the VSE system, its availability, and quality. Besides, the parameters that are specific to the activities of VSE establishments are

identified.

The experimental base of the research is educational establishments of vocational secondary education of the Republic of Sakha (Yakutia). A sample of the study was conducted among forty-five establishments.

3. Literature review and results

3.1. Subject overview

In this study, the authors proceed from the position that at this stage of development of society, specialists with vocational secondary education are most in demand. With this purpose, the authors consider the question of the relevance of graduates of vocational secondary education vocational secondary education system and the assessment of the quality of their training.

Vlasova, T., Krasnova, E., Abraukhova, V., Safontseva, N. (2018) state that the procedure for studying the ideas of Russian employers about the quality education of specialists is based on an innovative spiritual and ontological model of social partnership. This model includes the following components: presentation of educational content through the prism of business futurology on the part of teachers; selection of educational content through the lens of spiritual and ontological intentions on the part of students; expert assessment of education through the prism of a competitive business environment on the part of employers. Justified indicators determine the effectiveness of social partnership: the degree of variability, flexibility, and mobility in carrying out the tasks of teaching students with social and creative assets that are in demand in the labor market in the field of children's and youth leisure (Vlasova, 2018).

Reed, H.C., Van Wesel, F., Ouwehand, C., Jolles, J. (2015) note that the countries with a high degree of differentiation between academic and vocational education have the prospects of a person strongly determined by the educational direction to which they are assigned. Educational establishments of the Netherlands are known for transfer of students of academic education with a low level of academic progress to vocational training. In this regard, work is underway to identify models that show how levels of competence in different areas are related at different stages of development and comparing low performance with other students, the study sheds light on the individual and educational aspects that may be interfered with. The authors offer recommendations on how teachers and curriculum developers could use these ideas to take into account individual differences in development and development, as well as to develop curriculum materials that can help low-performing students to continue learning (Reed, 2015).

American authors Koricich, A., Chen, X., Hughes, R.P. (2018) having carried out a study, aimed at the choice of specialties of rural and urban youth who study at colleges, concluded that people from rural areas are more in demand as a middle class. The results of the study revealed clear differences in the choice of specialties and the reason for this was the socio-economic differences between rural and urban youth (Koricich, 2018).

Snell, D. (2018) notes that developed countries with open economies are experiencing significant difficulties due to technological changes, in particular, outsourcing and offshore production, which affect production, which leads to a general and steady decline in employment in production. A simplified view is that a strong manufacturing industry relies on an equally strong vocational education system to provide the necessary skills that would compete at this stage in the development of society. (Snell, 2018).

Israeli authors Arar, K., Abramovitz, R., Bar-Yishay, H., Notzer, N. (2017) noted that the motivation for the choice of specialties depends on belonging to a particular nationality. Israel is a multicultural society with a Jewish majority and a significant Arab minority. The findings showed that the strongest motivation expressed by all students was the desire for self-realization. Motivating social mobility and promoting the empowerment of their society is more important for Arab students. Convenient considerations (proximity to home, flexible entry standards, and employment prospects while studying) determined the choice of

college for Jews and Arabs more than the college's reputation and the quality of education. However, Arab students attach more importance than Jewish students to college quality. The authors conclude that postgraduate programs should be more sensitive to the needs of different students. (Arar, 2017).

Certain authors, [Amani \(2018\), M.](#), [Kim \(2018\), M.M.](#), [Cui \(2016\), X.](#), [Zhou, L. \(2016\)](#) note that graduates of those professional educational establishments where practical activity is paid more than theoretical are most in demand.

They adapt more quickly to production and more quickly master other specialties.

Thus, graduates of educational establishments of vocational secondary education, regardless of the country and region, are most in demand in society.

3.2. Analysis of the vocational secondary education system in the Republic of Sakha (Yakutia)

The vocational secondary education system trains specialists and skilled workers for enterprises and establishments of all sectors of the economy and plays an essential role in ensuring the stable economic development of the Republic, and also performs an essential social function: ensuring that young people receive affordable and free vocational secondary education.

The network of vocational secondary education of the Republic of Sakha (Yakutia) includes 50 Professional Educational Establishments (PEE), including 45 state establishments, three non-governmental establishments, and two federal state educational establishments of vocational education of the penitentiary system. Of them in the departmental submission:

- Ministry of Vocational Education, Training and Placement - 33 PEE;
- The Ministry of Culture and Spiritual Development - 4 PEE;
- Ministry of Education - 3 PEE;
- Ministries of Health - 3 PEE;
- Ministry of Sports - 1 PEE;
- Ministry of Labor and Social Development - 1 PEE.

The entire vocational education sector of the Republic of Sakha (Yakutia) until 2016 was represented by primary vocational educational establishments (PVEE) and secondary vocational educational establishments (SVEE) in annual proportions (PVEE/SVEE): 2011 – 28/31; 2012 – 28/32; 2013 – 28/32; 2014 – 25/24; 2015 – 0/45 (Table 1)

Table 1
State Professional Educational Establishments of RS (Y)

Years	2011	2012	2013	2014	2015
PVEE	28	28	28	25	0
SVEE	31	32	32	25	45

In 2015, as part of the alignment with federal legislation and optimization of the network of professional educational establishments, 14 professional educational establishments were reorganized by merging them and creating branches. As a result of such transformations, the share of vocational education establishments located in rural areas, in their total number, has decreased by 4% over five years. If this figure in 2011 was 41.8%, then in 2016 it was 37.8% (Zakharova and Bortnik, 2017).

The share of the working-age population of the Republic of Sakha (Yakutia) in the total population in 2015 compared to 2011, the share of the working-age population in the total

population decreased by 3%.

One of the indicators of the development of vocational education is an indicator of the average monthly wage of educators. This indicator over the past five years, according to the regional body of the Federal Statistical Service of the Republic of Sakha (Yakutia), has increased 1.88 times (Official Statistics of the Territorial Department of the Federal Insurance Service of the Republic of Sakha (Yakutia), 2016).

At present, 21,570 people are studying in 77 professions and 115 specialties in 45 vocational secondary education establishments. In recent years, 22 new specialties have been opened in vocational secondary education establishments, of which 16 are technical profiles, for example, such as Brigadier-Traveler, Protection in Emergency Situations, Drilling of Oil and Gas Wells, Shipboarding, Operation of shipboard electrical equipment and automation equipment, Automatic control systems, Insurance business, Laboratory technician, and Forester.

Table 2
Number of students in VSE educational establishments (people)

2011	2012	2013	2014	2015
22.799	22.649	14.036	19.230	21.570

An increase in the number of students is envisaged through the creation of a network of branches, the opening of new professions and specialties, and the training of a category of people 15 years and older in programs and modules targeted at a specific employer. The outlined reduction in the number of the contingent in the period 2011-2013, from 2014 begins to grow (Zakharova and Bortnik, 2017).

Due to changes in the legal and regulatory framework, in particular with the adoption of the Federal Law "On Education in the Russian Federation," admission to educational programs of vocational secondary education is carried out on an open basis, i.e., without entrance exams. The primary customers of engineering and technological profiles are the Ministry of Transport and Road Management, the Ministry of Economy and Industrial Policy, the Ministry of Housing and Public Utilities and Energy, the Ministry of Architecture and Construction Complex, the State Committee on Geology and Subsoil Use, the Ministry of Agriculture and Food Policy and others.

The dynamics of admission to training programs for the training of skilled workers, employees and mid-level specialists, shows instability since 2013.

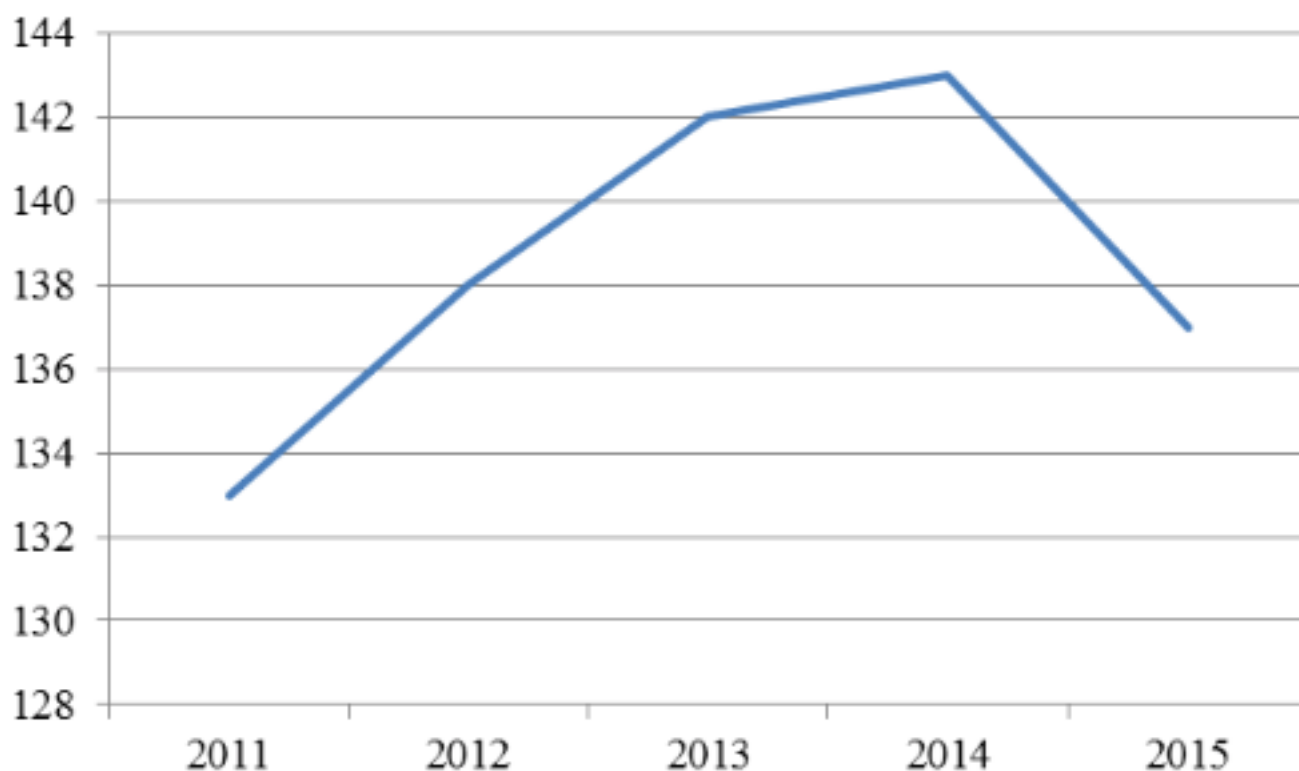
Table 3
Admission to training programs for the training of skilled workers, employees and mid-level specialists (people)

2011	2012	2013	2014	2015
11.800	12.300	8.600	9.300	9.500

The level of financing of the vocational secondary education system is at an insufficient level, although in recent years there has been a planned increase. As the statistics show, the expenditures of the consolidated regional budget for vocational education per 1 student, the organization of vocational education, compared with 2011, increased by 4,000 rubles: from 133 thousand to 137 thousand rubles. The highest expenditure was in 2014 when 143 thousand rubles were allocated for one vocational education student (Zakharova and Bortnik, 2017).

Figure 1
The costs of the consolidated regional budget for vocational education

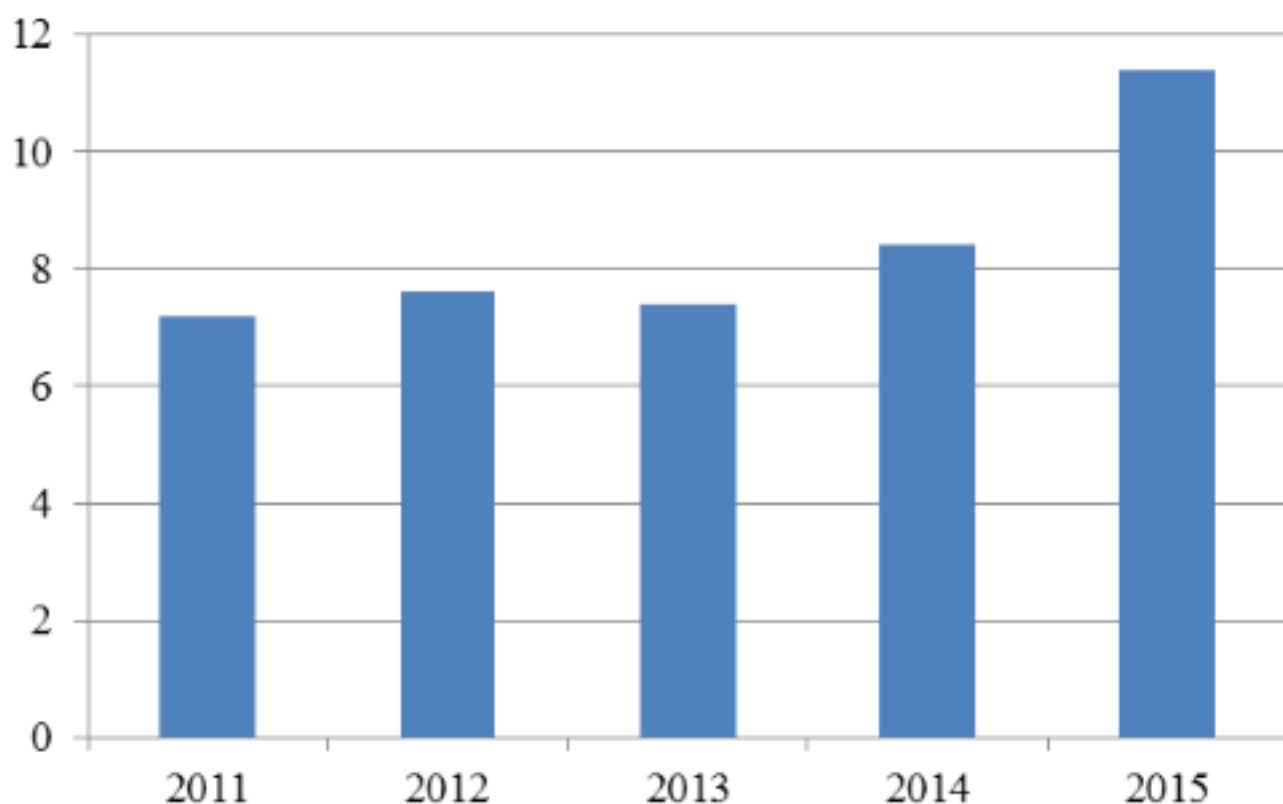
per 1 student of the vocational education establishment (Thousand rubles).



One of the indicators of the quality training of graduates is the number of graduates who received diplomas with honors in the total number of graduates of vocational education establishments. In 2016, compared with 2011, the proportion of graduates with a diploma with honors increased from 7.2% to 11.4%.

Figure 2

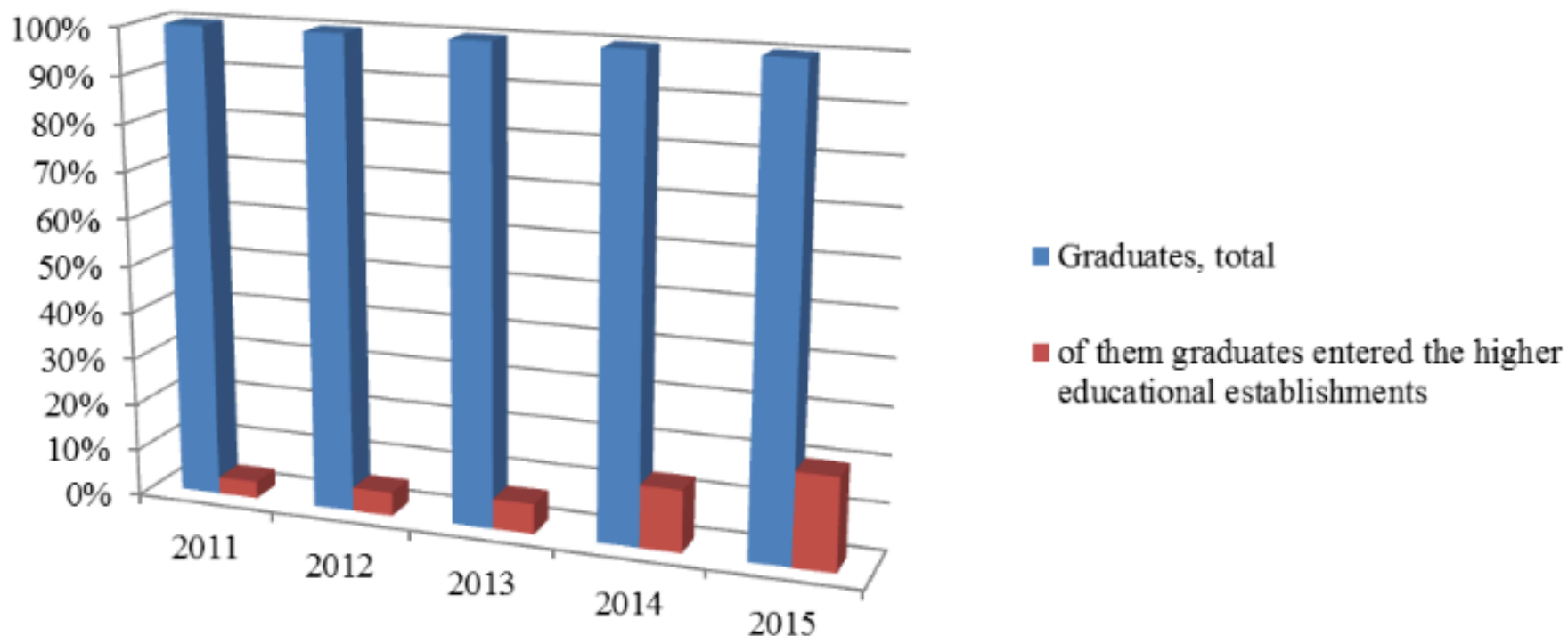
The proportion of graduates who received diplomas with honors in the total number of graduates of vocational education establishments (%)



From year to year, the number of graduates of vocational secondary education establishments is increasing, wishing to continue their studies in higher educational establishments. In 2016, 4,474 people graduated from vocational secondary education establishments, of which 884 people enrolled in educational establishments of higher education, which is 19.8%. Compared to 2011, the number of graduates enrolled in higher educational establishments increased by 16.32%.

Figure 3

The share of graduates who entered the organization of higher education in the total number of graduates of vocational education establishments (%)



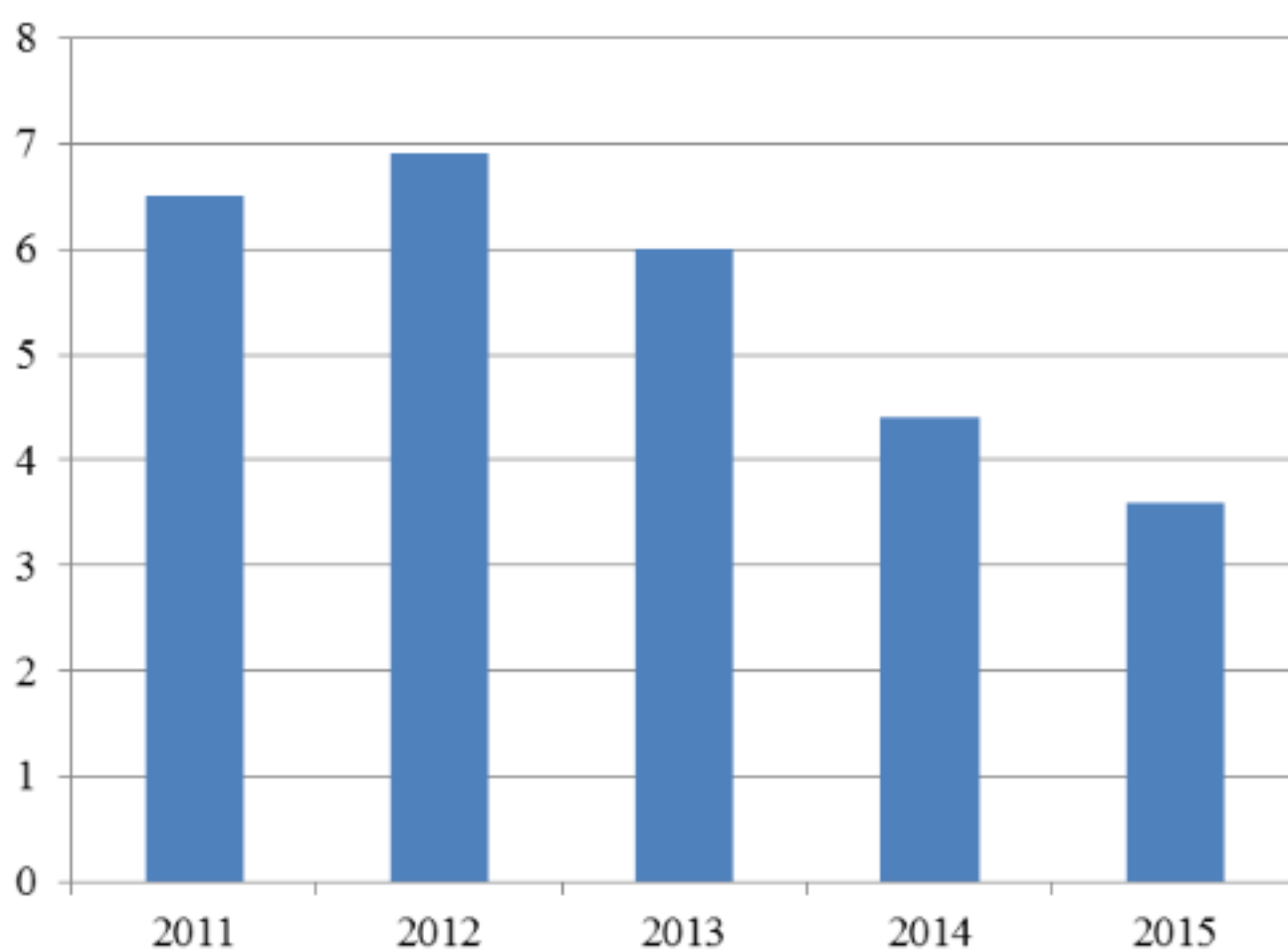
Such a sharp increase in admission of graduates of educational establishments of vocational secondary education to higher educational establishments is due to the fact that, in accordance with paragraph 6 of Article 70 of the Federal Law "On Education in the Russian Federation", admission to undergraduate programs and specialty programs for persons with secondary vocational or higher education, must be conducted on the results of entrance examinations, the form and list of which are determined by the higher educational establishment. The change in the form of entry examinations has had a positive effect on the increase in the number of students entering higher educational establishments from the number of graduates of educational establishments of vocational secondary education.

According to data provided by the Ministry of Internal Affairs for the Republic of Sakha (Yakutia), the proportion of juvenile delinquency and juvenile delinquency in the total number of delinquency and crimes is 0.01%. This criterion has not changed over the past five years.

In 2011, educational establishments of vocational secondary education numbered 22,799 students, 4,566 students dropped out, 1,482 of them for disrespectful reasons, which is 6.5% of the total number of students. In 2015, there were 21,570 students, out of them - 2977, out of which for disrespectful reasons - 786 (3.6%) (Zakharova and Bortnik, 2017).

Figure 4

The share of those who left for disrespectful reasons in the total number of students in vocational education establishments (%).



It should be noted that over the past five years, adequate measures have been taken to preserve the contingent of students, thus reducing the proportion of retired people for disrespectful reasons.

The indicators of resource provision of vocational education were passports of indicators for rating assessment of the state of the RF subjects, developed by the Institute of Statistical Studies and Economics of Knowledge of the State University - Higher School of Economics and Management with the recommendations of the Interregional Association for Monitoring and Education Statistics (Bortnik, 2018).

The proportion of vocational education establishments that have all types of improvement in their total number characterizes the degree of comfort of the content of students. Those who have all kinds of amenities include establishments whose buildings have running water, central heating, sewage and are provided with electricity. The share of educational establishments with all types of improvement today is 95.6%.

The proportion of licensed medical offices is increasing from year to year in 2016 and is 70.7% (Zakharova and Bortnik, 2017).

However, the indicator of the proportion of educational establishments in emergency condition today reaches 41.5%. Also, the proportion of educational establishments requiring capital repairs in 2016 compared to 2015 increased by 16.6%. Thus, the professional educational establishments of the republic are lagging behind the increased requirements for the conditions of students' stay in them. There is a tendency to the deterioration of the material and technical base.

Monitoring data show that the state of the material and technical base is uneven across groups of districts. All emergency buildings managed by educational establishments are located in rural areas.

The implementation of the basic professional educational program should be provided by competent pedagogical personnel with an appropriate educational level.

As the data show, the proportion of persons with higher education to the total number of teachers of vocational education establishments from 2011 to 2014 increased by 1%, and in 2015 there was a decrease in this indicator. This decrease is because in 2015, as part of bringing it in line with federal legislation, optimization of the network of professional educational establishments was started by reorganizing them, merging and/or creating branches in 14 professional educational establishments (Zakharova and Bortnik, 2017).

Table 4

Indicators of the proportion of persons with higher education to the total number of teachers of vocational education establishments (%)

2011	2012	2013	2014	2015
87.7	87.8	89	88.7	85.8

The number of teachers with experience in teaching less than three years in the vocational secondary education system is increasing every year. The highest rate was in 2014. In 2015, the decline in this indicator was connected to the optimization of the network of vocational education establishments.

Table 5

The proportion of teachers with experience in teaching less than three years to the total number of teachers of vocational education establishments (%)

2011	2012	2013	2014	2015
8	10	11	19	13

Statistics show that in the vocational secondary education system, the proportion of teachers of retirement age decreases every year. The highest rate was observed in 2014 when the proportion of teachers of retirement age reached 46%. After optimizing the network of vocational education in 2015, the share of teachers of retirement age is 20%.

Table 6

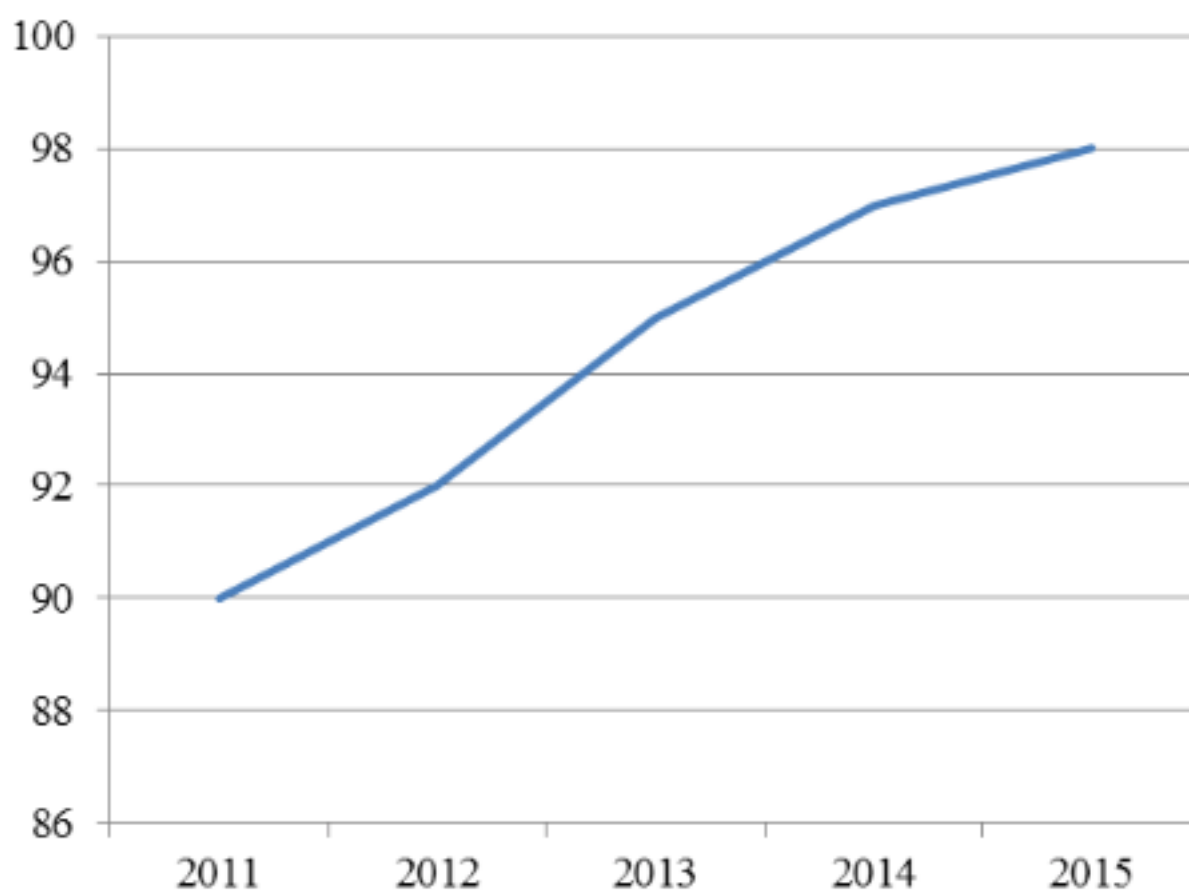
The proportion of teachers of retirement age to the total number of teachers of vocational education establishments (%)

2011	2012	2013	2014	2015
23	25	28	46	20

Advanced training is one of the leading indicators in the work of teaching staff, which contributes to the quality training of students. The coverage of teachers with advanced training and retraining courses increased from 90% to 98% of the total number of teachers of vocational education establishments (Zakharova and Bortnik, 2017).

Fig. 5

The proportion of teachers who have completed courses in professional development and professional retraining (%)



Following the objectives of the implementation of research work, the theoretical bases for the formation of indicators of the development of the vocational secondary education system were identified. Based on the study of modern approaches to the formation of indicators for the development of education and the analysis of practical experience in the Russian Federation, the structure of the system of indicators for the development of the vocational secondary education system in the Sakha Republic (Yakutia) has been determined taking into account 8 adopted vocational education clusters of the Sakha Republic (Yakutia): coal mining, construction, tundra reindeer breeding, information technologies, gold mining, food industry, agricultural and jeweler-polishing.

Indicators are divided into three groups:

- 1) The socio-economic conditions of the functioning of the vocational secondary education system;
- 2) Resource support;
- 3) The effectiveness of the vocational secondary education system (indicators of compliance with consumer demands and standards, educational results).

The selection of indicators determining the development of the vocational secondary education system implies their compliance with the following requirements:

- Focus on improving the system of integrated forecasting and analysis in the vocational secondary education system;
- Relevance about the social situation and public policy, relevance, and validity; relevance regarding the subject under consideration (analyzed), completeness, clarity and clarity, the possibility of partial control through the selected indicators;
- The possibility of long-term multiple (regular) use of indicators;
- The possibility of describing the territorial, social differences affecting the state and development of the vocational secondary education system;
- The possibility of inter-regional and dynamic comparisons;
- The possibility of forming part of the mosaic portrait of the social sphere, accuracy, and reliability;
- Availability of information in the period necessary for decision-making (Zakharova and Bortnik, 2017).

During the monitoring study of the indicators of the development of the vocational secondary education system, the leading indicators for assessing the state and dynamics of

the development of the vocational secondary education system in the republic were identified. Statistical and other data series allowed identifying indicators that allow assessing the current state and direction of development following the tasks defined by the Program for the modernization of the vocational secondary education system of the Republic of Sakha (Yakutia).

The study highlights the parameters affecting the development of the vocational secondary education system, its availability, and quality. Besides, the parameters specific to the activities of establishments of vocational secondary education are defined.

According to the results of the study, recommendations and methodologies can be developed to determine the indicators of the development of the republican vocational secondary education system, and specific measures are taken to improve the integrated forecasting and analysis system in the vocational secondary education system.

Territorial disproportions in ensuring the availability and quality of vocational education are defined.

4. Discussion

The reorganization of 14 professional educational establishments through their merger and the establishment of branches from 2015 within the framework of bringing into line with federal legislation and optimization of the network of professional educational establishments caused a number of both positive and negative consequences:

- As a result of such transformations, the share of vocational education establishments located in rural areas, in their total number, has decreased by 4% over five years. If this figure in 2011 was 41.8%, in 2015 it was 37.8%;
- The proportion of individuals with higher education to the total number of teachers of vocational education establishments from 2011 to 2014 increased by 1%, and in 2015 there was a decrease in this indicator. This decrease is because in 2015, as part of bringing it in line with federal legislation, optimization of the network of professional educational establishments was started by reorganizing them, merging and/or creating branches in 14 professional educational establishments;
- The number of teachers with experience in teaching less than three years in the vocational secondary education system is increasing every year. The highest rate was in 2014. In 2015, the decline in this indicator was connected to the optimization of the network of vocational education establishments.

As the analysis of the activities of establishments of vocational secondary education shows, an increase in the contingent is not directly dependent on the implemented management measures. An increase in the number of students is envisaged through the creation of a network of branches, the opening of new professions and specialties, and the training of a category of people 15 years and older in programs and modules targeted at a specific employer, i.e., by the extensive way.

The following factors influence the growth/decline of students in the vocational secondary education system:

- The demographic situation in the Republic (birth rate, external and internal migration of the population, the outflow of the rural population to the cities, towns, and district (ulus) centers) does not contribute to an increase in the number of students;
- Reduction of the term of service in the army to one year affects indirectly, especially in those establishments of vocational secondary education, where more young people are trained;
- Market conjuncture in the profession and specialty has a direct impact on the growth/decline in the number of students;
- The ability of the vocational secondary education establishment to respond flexibly to the needs of the labor market allows an increase in the number of students;
- Creation of vocational and educational clusters made it possible to optimize the list of

professions and specialties being prepared and to increase the efficiency and quality of training qualified personnel;

- Increasing the admission of applicants to higher educational establishments of the Republic of Sakha (Yakutia) and abroad reduces the admission of students to establishments of vocational secondary education.

The share of educational establishments in emergency condition today reaches 41.5%. Also, the proportion of educational establishments requiring capital repairs in 2016 compared to 2015 increased by 16.6%. Thus, the professional educational establishments of the republic are lagging behind the increased requirements for the conditions of students' stay in them. There is a tendency to the deterioration of the material and technical base.

Monitoring data show that the state of the material and technical base is uneven across groups of districts. All emergency buildings managed by educational establishments are located in rural areas.

5. Conclusions and recommendations

According to the "Strategy of social and economic development of the Republic of Sakha (Yakutia) for the period until 2030 with the definition of the target vision until 2050", as well as the Comprehensive Program "Social and economic development of the Arctic and northern regions of the Republic of Sakha (Yakutia) for 2014-2017 for the period up to 2020", the leading areas of agriculture will remain traditional industries such as northern (domestic) reindeer herding, fishing and fur trade.

In connection with the long-term prospects for the development of the Extreme North, there is an increasing need for training local personnel for the socio-economic development of territories, and in this regard, the authors can recommend the following:

- Provision of qualified personnel for working professions to create new branches in the regions of the Far North, where professional educational establishments of vocational secondary education are not available, which will optimize the list of professions and specialties being prepared and improve the efficiency and quality of training;
- Expanding the list of vocational training programs, including vocational training (for persons without working qualifications), retraining and advanced training for adults, not only by vocational educational establishments in the Arctic ulus but also with the involvement of establishments located in other areas Republic;
- Creating and developing educational and production bases professional educational establishments of vocational secondary education located in arctic regions, including the processing of venison, fish and the field of folk arts and crafts;
- Improving the quality of vocational education through the introduction of modern learning technologies (distance and mixed forms of education, a module-competence approach in the formation of basic educational programs, etc.);
- Taking into account the employment problems of the indigenous population of the region, consider issues related to the discovery of new professions and specialties, such as "Mechanical reindeer herder", "Huntsman", "Taxidermist", "Field Hunter", "Chum Hostess", "Bones and horns cutter", "Master of making souvenirs";
- The Ministry of Education should plan targeted training for teaching staff at the head higher educational establishments of the Republic of Sakha (Yakutia) and the Russian Federation, in order to ensure the training of newly opened lists of new professions and specialties;
- Develop a network of vocational education entities in this economic zone, to study the issue of obtaining licenses for the training of blue-collar occupations by educational establishments of general education;
- Creation of comfortable conditions for graduates of professional educational establishments of vocational secondary education for their adaptation in difficult climatic conditions;
 - Development of distance learning, involving the creation of the infrastructure of district distance education centers with the aim of improving the quality of training, professional

development, obtaining an additional specialty and retraining courses.

- Activating career guidance work among schoolchildren not only in the Far North regions but also in other zones of the region and the country as a whole (information support of profile orientation, early vocational guidance through the Junior Skills competition, competitions, etc.);

- Allotting production establishments to vocational secondary education establishments as permanent bases of practical training for students;

- Stimulating the interest of establishments in conducting pre-diploma practice with the subsequent employment of graduates of vocational secondary education establishments;

Thus, the VSE system in the Republic of Sakha (Yakutia) is improving every year, not only in terms of methodological support but also in terms of logistics. The VSE system of the Republic of Sakha (Yakutia) is carried out systematic work on the implementation of comprehensive programs for the development of the Extreme North, in particular the Arctic economic zone, which will solve social (growth of employment and incomes of the population) and economic (growth of budget revenues, acceleration of economic growth etc.) problems of the Arctic and northern municipal areas (ulus) of the Republic of Sakha (Yakutia), as well as create a new point of economic growth in the Far East.

Bibliographic references

AMANI, M., KIM, M.M. Study Abroad Participation at Community Colleges: Students' Decision and Influential Factors. *Community College Journal of Research and Practice*. Vol 42, year 2018, issue 10, p. 678-692.

ARAR, K., ABRAMOVITZ, R., BAR-YISHAY, H., NOTZER, N. Academic choices, and motivation: Diverse groups. *Israel Journal of Further and Higher Education*. Vol 41, issue 5, page 642-656.

BARINOVA, T. M., GARIPOVA, I. O., KARANNOVA, V. V., LEONOVA, N. P., SHKATOVA. E. A., KUDRYAVTSEVA, V.T., GOGOLEV, E.M. (2011). *Terminology dictionary of psychological Pedagogical disciplines*. Magadan: Ed. Hunter.

BIM-BADA, B.M. (2002). *Pedagogical Encyclopedic Dictionary of the Great Russian Encyclopedia*. Moscow.

BORTNIK, A.F. Analysis of the VSE system in the Arctic economic zone of the Republic of Sakha (Yakutia) // Problems of modern pedagogical education. Series: Pedagogy and psychology. - *Collection of scientific works*. Vol 60, year 2018, issue 4, page 62-64.

CUI, X., ZHOU, L. The application and development prospect of the simulation of numerical control lathe in vocational and technical colleges. *Proceedings - 2016 6th International Conference on Instrumentation and Measurement, Computer, Communication and Control*. Vol IMCCC, year 2016, issue 7774881, page 741-744.

DAVYDOV, V.V. (1993). *Russian Pedagogical Encyclopedia: In 2 volumes*. Moscow: The Great Russian Encyclopedia.

DUDNIK, S.I. Educational policy in modern Russia: problems and prospects. *Education and civil society*. Vol 1, year 2012, 20.

ENIKEEV, M.I. (2006). *Psychological encyclopedic dictionary*. Moscow: Prospekt Publishing house.

GAIDARENKO, L.V., ISABEKOVA, O.A., KAPYRIN, P.A., MESHKOV, N.A., POPOVICH, A.E. Innovation development concept of the Russian educational complex in the conditions of information society. *Astra Salvensis*. Vol 6, year 2018, page 723-734.

Infographics. (2016). *The program of modernization of the vocational secondary education system of the Republic of Sakha (Yakutia)*. Publishing House of the Ministry of Vocational Education, Training and Placement of Personnel of the Republic of Sakha (Yakutia), 2016.

KORICICH, A., CHEN, X., HUGHES, R.P. Understanding the effects of rurality and socioeconomic status on college attendance and institutional choice in the United States. *Review of Higher Education*. Vol 41, year 2018, issue 2, page 281-305.

KRECHETNIKOV, K.G., PESTEREVA, N.M. A comparative analysis of the education systems in Korea and Japan from the perspective of internationalization. *European Journal of Contemporary Education*. Vol 6, year 2017, issue 1, page 77-88.

MESHCHERYAKOV, B., ZINCHENKO, V. (2004). *The Big Psychological Dictionary*. Moscow: Olma-Press.

NAGIMOV, A.R., AKHMETSHIN, E.M., SLANOV, V.P., SOLOMONOV, M.P., IL'YASCHENKO, D.P. Foresight technologies in the formation of a sustainable regional development strategy. *European Research Studies Journal*. Vol 21, year 2018, issue 2, page 741-752.

NANDAN, M., LONDON, M. Interdisciplinary professional education: Training college students for collaborative social change. *Education and Training*. Vol 55, year 2013, issue 8-9, page 815-835.

Official Statistics of the Territorial Department of the Federal Insurance Service of the Republic of Sakha (Yakutia)

(http://sakha.gks.ru/wps/wcm/connect/rosstat_ts/sakha/ru/statistics/)

OSIPOVA, N.G., ELISHEV, S.O., PRONCHEV, G.B., MONAKHOV, D.N. Social and political portrait of contemporary Russian student youth. *Journal of Social Studies Education Research*. Vol 9, year 2018, issue 1, page 28-59.

Programs of modernization of the vocational secondary education system of the Republic of Sakha (Yakutia) 2016-2020. The results of the work of the Ministry of Vocational Education, Training and Placement of Personnel of the Republic of Sakha (Yakutia). Publishing House of the Ministry of Vocational Education, Training and Placement of Personnel of the Republic of Sakha (Yakutia), Yakutsk, 2016.

REED, H.C., VAN WESEL, F., OUWEHAND, C., JOLLES, J. Keeping on track: Performance profiles of low performers in academic educational tracks. *British Educational Research Journal*. Vol 41, year 2015, issue 1, page 48-71.

Report of the Minister of the Ministry of Vocational Education and Staffing of the RS (Y) to the public in 2011 (<http://minprofobr.ru/>)

Report of the Minister of the Ministry of Vocational Education and Staffing of the RS (Y) to the public in 2012 (<http://minprofobr.ru/>)

Report of the Minister of the Ministry of Vocational Education and Staffing of the RS (Y) to the public in 2013 (<http://minprofobr.ru/>)

Report of the Minister of the Ministry of Vocational Education and Staffing of the RS (Y) to the public in 2014 (<http://minprofobr.ru/>)

Report of the Minister of the Ministry of Vocational Education and Staffing of the RS (Y) to the public in 2015 (<http://minprofobr.ru/>)

Short statistical compilation "Republic of Sakha (Yakutia) in numbers" (http://sakha.gks.ru/wps/wcm/connect/rosstat_ts/sakha/ru/statistics/)

SNELL, D. Vocational education and the revitalization of manufacturing in the United States. *Journal of Vocational Education and Training*. Page 1-21.

SOBKIN, V.S., PISARSKY, P.S. (1992). *A sociocultural analysis of the educational situation in the city*. Moscow: Ministry of Education of the Russian Federation.

STEPANOVA, S.A. (2005). *Terminology dictionary in the field of quality management of higher and vocational secondary education*. St. Petersburg.

TARASENKO, L.V., OUGOLNITSKY, G.A., USOV, A.B., ASTOYANZ, M.S., ANGEL, O.Y. Concordance of interests in dynamic models of social partnership in the system of continuing professional education. *International Journal of Environmental and Science Education*. Vol 11, year 2016, issue 18, page 13055-13068.

USOVA, A.V. Problems of reforming the education system. *Bulletin of the Russian Academy of Education. Educational law*. Vol 2, year 2012.

VAGINA, I.V. (2015). *The comparative analysis of systems of secondary professional education of Russia and France: the dissertation of a candidate of pedagogical sciences:*

13.00.08. Shuya.

VLASOVA, T., KRASNOVA, E., ABRAUKHOVA, V., SAFONTSEVA, N. Dynamics of Russian employers' perceptions on the training quality of specialists in the vocational secondary education system. *Journal of Social Studies Education Research*. Vol 9, year 2018, issue 1, page 76-88.

ZAKHAROVA, A.I., BORTNIK, A.F. Assessment of the state of secondary vocational education in the Republic of Sakha (Yakutia). *European social science journal*. Vol 3, year 2017.

ZHENG, A.B. Study on ideological and political education of college students in the background of new media. *Proceedings of the International Conference on Management, Information and Educational Engineering*. Vol MIEE 20142, page 685-688.

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[Index]

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