

ICEST 2021**II International Conference on Economic and Social Trends for Sustainability of Modern Society****DEVELOPMENT OF EDUCATIONAL ORGANIZATIONS IN THE
REGION DURING THE PERIOD OF DIGITALIZATION**

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Abstract

The article gives prominence to the factors currently affecting the development of the management system of educational organizations in the Republic of Bashkortostan. Digitalization, computerization, demographic changes, the economic environment, trends in the labour market, ecology and migration are highlighted among such factors. The main tendencies in the field of education and financing of the education system of the Republic of Bashkortostan are revealed. The comparison is made with the educational system of the Republic of Tatarstan. The problem of the applicant outflow is considered. Conclusions about the insufficient competitiveness of the education system and the management system of educational organizations in the Republic of Bashkortostan are drawn. Three main models were identified in the process of studying the education system: Anglo-American, German and Scandinavian. The features of the German model are inherent for educational institutions of Russia because the competition between “status” and “non-status” educational institutions is increasing, mainly due to the financial support of the former. This situation contributes to an increase in the distance between the leading and secondary educational institutions. At the same time, there is the absence of federal and research higher educational institutions in the Republic of Bashkortostan. The management of the education sector and educational organizations in the region still has a fairly large potential for growth and development.

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1. Introduction

The emergence of social relations marks significant qualitative changes in the Russian education system. According to the collection "Education in Figures: 2019", the number of educational organizations has significantly decreased over the past twenty years. In particular, the number of educational institutions of higher education decreased by 23.2%, secondary vocational education by 4.9%, general education by 39.9% from 2000 to 2019 (Bondarenko et al., 2019). The trend is accompanied by a decrease in the level of graduate employment by occupation from 70.3% in 2000 to 54.9% in 2018 (Employment of university graduates according to the profile of the received specialty, 2020). The reduction in the number of state and non-state educational institutions, a significant decrease in the quality of the educational process and the unpreparedness of graduates of educational institutions for activities in the digital economy and in the information society made it necessary to modernize the education system.

2. Problem Statement

The urgency of the problem of the functioning and development of the education organization is associated with changes in the education of our country, which can be characterized as systemic.

These changes are due to new strategic goals formulated at the federal level in the "Law on Education in the Russian Federation" (Federal Law "On Education in the Russian Federation", 2012). The new provisions are confirmed by the implementation of federal state educational standards (FSSES), which are being introduced at different levels of education. In certain periods it is necessary to achieve results for the development of educational programs with the aid of regulated educational content. These tasks relate to the functional mechanisms of the educational organization.

In order to achieve the planned results, there is a shortage of compulsory educational programs and an insufficient amount of ways to master them. It is no coincidence that the versatility of the educational process is discussed at the federal level and is indicated by the variability of educational programs (Ivanova, 2019; Korechikov, 2017; Rychikhina, 2019).

In such conditions, the management of educational organizations becomes a key aspect of the effectiveness of their activities.

3. Research Questions

The digitalization development in the management of educational organizations of the Republic of Bashkortostan has predetermined the development of such areas as e-courses, distance learning, software for tracking the text borrowing, as well as certification of students and teachers. In addition, the current epidemiological situation in 2020 contributed to the organization of mass distance learning, which predetermined the progressive introduction of digital learning platforms.

Similar trends are present in many cities, regions, countries. However, the tools used in organizing public education may vary. Analyzing foreign experience, three models of educational policy can be distinguished: Anglo-American, German and Scandinavian. These models are aimed at improving education quality, and each of them has its own ways of solving this issue.

For example, the Anglo-American model implies high competition among students. Based on this, the education system is built according to the principle in which the funding of an educational institution depends on the results of annual tests of students. The advantage of this system is the use of a market model of competition, the disadvantage is the high correlation of test results and school funding, which leads to "coaching" for a high score, a reduction in the share of the creative component, and a high psychological load of students.

The German model of educational policy has a pronounced selective attitude, where funding is directed to groups of more capable students. The advantage of this system is the significant support of capable students, but there are also significant drawbacks to the separation of students by subjective, often economic, factors, a high level of stress for students when passing tests to determine abilities.

The Scandinavian model is aimed at equalizing students, thereby financing educational organizations evenly. This model is a reference, because it is not based on high results, but on an individual approach to each student.

Having considered three models of management of educational organizations, it was revealed that each of the presented models has a number of advantages and disadvantages. The features of the German model are inherent for educational institutions of Russia because the competition between "status" and "non-status" educational institutions is increasing, mainly due to the financial support of the former. This situation contributes to an increase in the distance between the leading and secondary educational institutions, for example, in terms of total entrance scores. At the same time, there is the absence of federal and research higher educational institutions in the Republic of Bashkortostan.

The only "compensation" was the status of the flagship university of the Ufa State Petroleum Technical University (USPTU). Such statuses were developed for regions where there are no national-level educational institutions in order to stop the outflow of applicants. However, at the present stage, the outflow of applicants continues.

4. Purpose of the Study

The combination of the above features negatively affects the level of logistics costs. And since the overall assessment of the transport and logistics system of the country consists of separate regional indicators, the study of the logistics services market at the level of the territorial entity of the Russian Federation is considered relevant and, in particular, the experience of developing the logistics system of the Republic of Bashkortostan, a region with favourable conditions for business activities and high potential opportunities in the field of logistics, is interesting.

5. Research Methods

Management of an educational organization includes two interrelated processes: the functioning and development of an educational organization. The functioning of an educational organization provides for the maintenance of a system of "normative" activities based on the traditionally established management mechanism. The transition to development is linked to a modification in management strategies since development - is a process of qualitative change based on the chosen innovation strategy.

In recent years, institutional changes have taken place due to the following facts. Firstly, a regulatory framework for the functioning of an educational institution was created. Secondly, the state regulatory mechanism for relations in the education field was adapted, and, lastly, a new system for organizing the provision of educational services was built up.

The following factors currently influence the management of educational organizations in the Republic of Bashkortostan:

- computerization and digitalization of society, the development of innovative technologies, the transition to the "knowledge economy" (in the learning process, 83% of students of secondary vocational education and 89% of students of higher education have skills in working with applied programs), with digital equipment - 57% and 66%, respectively (Bondarenko et al., 2019);
- the growing role of "intellectual capital" in the context of the new technological structure ("intellectual capital" includes the knowledge and experience of employees, patents, software, databases and is in demand and financial value in corporate structures);
- demographic changes (the population of the Republic of Bashkortostan from 2000 to 2019 decreased from 4119 thousand people to 4038 thousand people due to natural and migration loss. One of the reasons for the migration loss is admission to higher educational institutions in other regions of Russia) (The number of the permanent population of the Republic of Bashkortostan, 2019.);
- the economic environment of the functioning of educational organizations (the costs of the educational environment in general and per capita are being reduced in the Republic of Bashkortostan);
- the growing diversity of cultures among students (it is caused by migration processes);
- structural changes and trends in the labour market (changes in the structure of demanded professions, a mismatch between supply and demand in the labour market, a bias towards higher education with a lack of production specialists);
- consequences of challenges: environmental crisis, social stratification, etc.;
- an increase in the migration outflow from the Republic of Bashkortostan (Innovative approaches to the management of an educational organization in the context of conceptual changes in Russian education, 2015).

6. Findings

Management of educational organizations in the Republic of Bashkortostan is an ongoing process that affects the productivity of employees, a group or an organization as a whole for the best results in achieving the goal. The effectiveness of the management of educational organizations is determined by the extent of goals achievement. The goal can be a specific ideal model of a student or a graduate, or a certain range of skills that a student must possess, or other requirements that are necessary for a student in the context of a municipal assignment (Innovative approaches to the management of an educational organization in the context of conceptual changes in Russian education, 2015).

Table 1 presents some indicators reflecting the effectiveness of the state program for the education development in the Republic of Bashkortostan (Reports on the implementation of the state program "Development of education in the Republic of Bashkortostan" for 2017, 2018 and 2019, 2020).

Table 1. Results of the state program for the education development in the Republic of Bashkortostan for 2017-2019

Indicator	2017	2018	2019
The level of satisfaction of the population with services in the field of education, %	70	70	70
The share of municipalities of the Republic of Bashkortostan, in which the target model of the digital educational environment in educational institutions is implemented, %	0	0	15
Number of regional tools for assessing the quality of education	5	7	11
Number of innovative additional general education programs	10	20	30

As one can see from the data in Table 1, new methods, innovative programs and quality assessment tools appear in the field of management of educational organizations.

Let us consider the dynamics of spending on education and the share in the regional budget.

Despite the increase in the expenditures share on education in the budget of the Republic of Bashkortostan, expenditures in absolute terms are decreasing. Expenditures per capita are also decreasing, which may negatively affect the education system as a whole. While the difference in expenditures on education per capita in the Republic of Bashkortostan and in the Republic of Tatarstan in 2017 was 1.79 thousand rubles, it was already 8.25 thousand rubles in 2019, so it can be considered as a substantially double escalation (The structure of budget expenditures of the Republic of Bashkortostan for 2017-2019, 2020; Territorial body of the Federal State Statistics Service for the Republic of Bashkortostan, 2020; Territorial body of the Federal State Statistics Service for the Republic of Tatarstan, 2020; Reports on the execution of the budget of the Republic of Tatarstan, 2020).

Table 2. Dynamics of education costs in the Republic of Bashkortostan for 2017-2019

Name	2017	2018	2019	Growth rate, %
Republic of Bashkortostan				
Budgeted expenditure on education, mln. RUB.	39513.3	38023.7	37047.3	93.7
Total costs	164715.2	144477.8	147063.5	89.2
Share of education costs in the budget of the Republic of Bashkortostan, %	24.0	26.3	25.2	105.0
Population, people	4063293	4051333	4038151	99.3
Expenditures on education per capita, thous. rubles / person	9.72	9.38	9.17	94.3
Republic of Tatarstan				
Budgeted expenditure on education, mln. RUB.	44644.1	71280.3	68022.1	152.3
Total costs	231088.6	274704.2	274812.1	118.9
Share of education costs in the budget of the Republic of Tatarstan, %	19.3	25.9	24.7	127.9
Population, thous. persons.	3894284	3898628	3902888	100.2
Expenditures on education per capita, thous. rubles / person	11.4	18.2	17.4	152

In support of the conclusions and according to the data of the territorial body of the Federal State Statistics Service for the Republic of Bashkortostan, the number of educational institutions of higher education is decreasing (Territorial body of the Federal State Statistics Service for the Republic of Bashkortostan, 2020).

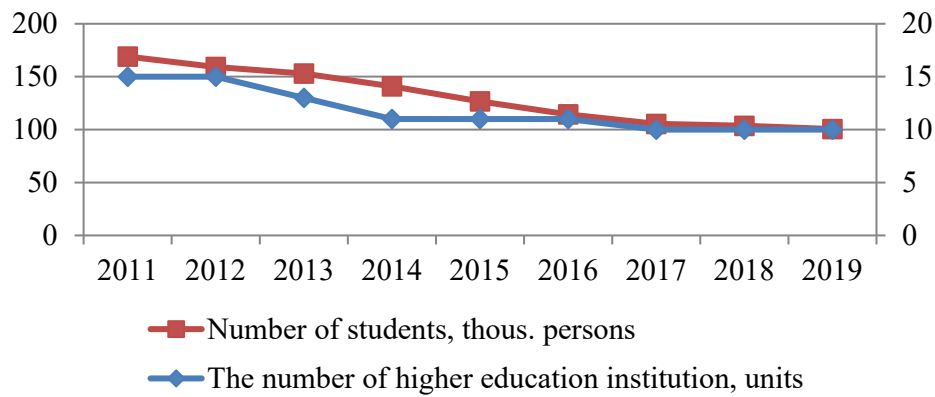


Figure 1. Dynamics of the number of higher education institutions and the number of students in the Republic of Bashkortostan in 2011-2019

As can be seen from Figure 1, the reduction in the number of higher education institutions is accompanied by a reduction in the number of students. There is an opinion about the problem of the outflow of applicants, which calls into question the competitiveness of the education system of the Republic of Bashkortostan.

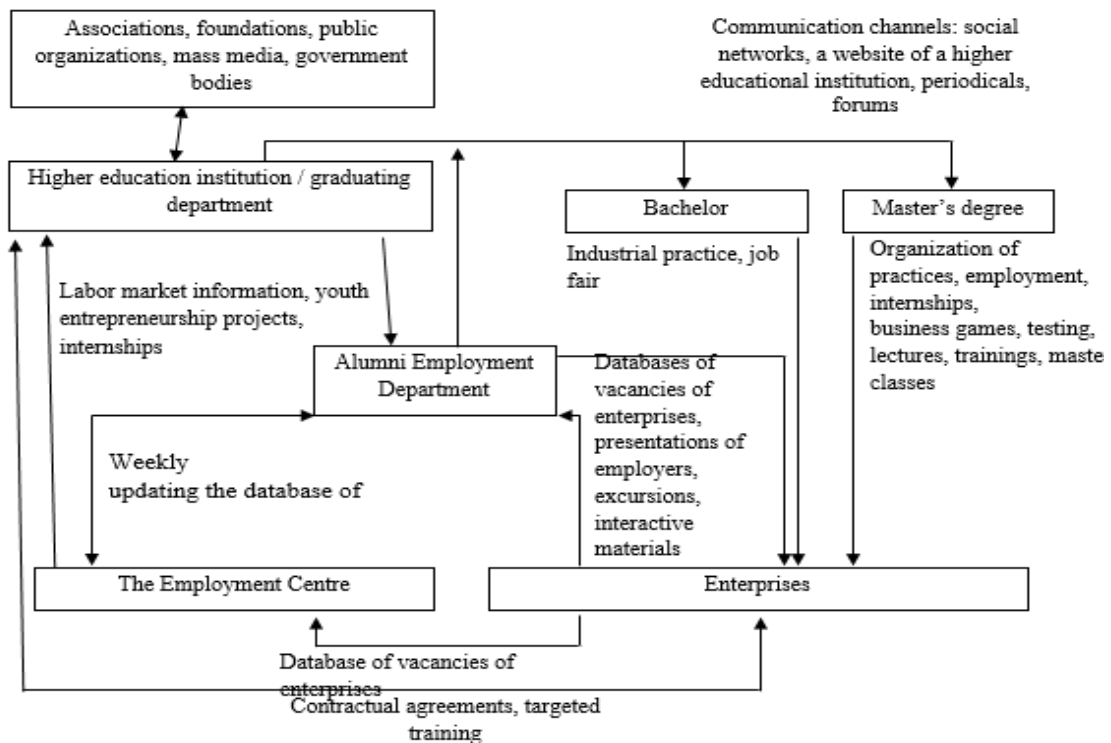


Figure 2. Model of interaction of higher education institutions with employers, employment centers and alumni

In general, the model of interaction of higher education institutions with employers, employment centres and alumni may look in the following manner (Figure 2).

It can be seen from Figure 2, higher education institutions in the process of promoting the graduate employment interact with many organizations, including the employment centre, the media, government agencies and directly enterprises. In order for the process of graduate employment to be effective, and the proportion of those employed to be close to 100%, complex work is required. Many higher educational institutions have a graduate employment department in the organizational structure, which carries out activities to organize the interaction between education and production.

Certain experience of effective interaction of a higher educational institution, government authorities and enterprises on the employment of graduates has been accumulated by the Ufa State Petroleum Technological University.

The department of practice and assistance to the graduate employment organizes master classes, company presentations, panel discussions, excursions and industrial practices in cooperation with partner enterprises. Profiled passing of industrial practice allows students to carry out vocational guidance and form practical skills already at the training stage.

On a mandatory basis, the department of practice and employment assistance cooperates with state authorities, participates in meetings, panel discussions on professional training. In addition, interaction with representatives of the employment centre is carried out on the issues of providing information on graduate employment, on the number of applicants for work, on current vacancies.

In the process of digitalization, enterprises and higher educational institutions create methodological interactive materials that allow graduates to master the current skills of self-presentation and time management.

The demand for graduates of higher educational institutions is evidenced by the indicator of the share of graduates' employment. Table 3 shows the dynamics of graduate employment in the Republic of Bashkortostan and the Republic of Tatarstan (Department of career development KNRTU-KAI, 2020; Department of practice and employment of students, 2020; Monitoring the employment of graduates, 2020).

Table 3. Graduate employment in the Republic of Bashkortostan and the Republic of Tatarstan, %

Regions	Employment department	2016	2017	2018
Republic of Bashkortostan		80	82	79
	Including:			
USPTU	+	89	90	92
USATU	+	86	85	85
Republic of Tatarstan		83	82	81
	Including:			
KFU	+	87	86	87
KNRTU-KAI named after A.N. Tupolev	+	90	91	93

In the regional context, the employment of graduates has a similar trend. Given higher educational institutions have graduate employment departments, which ensures a higher level of employment. Kazan Federal University (KFU) and KNRTU-KAI named after A.N. Tupolev also have a practice and employment department. Analytical materials of the departments for the employment of graduates of these

universities contain information that technical specialists are more likely to get a job (in some specialities, employment is close to or equal to 100%).

7. Conclusion

Employment rates at the Ufa State Petroleum Technological University are of the greatest importance among the higher educational institutions of the Republic of Bashkortostan. In 2018, the share of employed graduates reached 92%, with an average regional value of 79%. This ratio testifies to the high efficiency of the university-enterprise interaction model.

The learning process in this organization is regulated at all stages:

- planning of the educational process;
- development of educational and methodological support;
- development of the content of electronic and distance courses;
- organization of e-learning (online learning, knowledge management system, information systems);
- monitoring of the educational process (education and training systems);
- taking into account the didactic burden of scientific and teaching staff;
- intermediate and final certification of students.

Analysis and comparison of the work of higher educational institutions made it possible to note that the Republic of Tatarstan also has effective systems of employment of graduates, where universities, in addition to standard methods of interaction, actively use inter-organizational means of communications. For instance, they attract the media as reviewers of graduation qualification works, organize panel discussions with educational organizations, alumni roundtable discussions with heads of enterprises with a limited number of participants (5-10 people). The latter is due to the fact that some graduates misunderstand the features of the future speciality, in this regard, limited sessions allow graduates to receive advice. In addition, universities hold meetings of graduates of 4-6 course year with graduates engaging in the occupation, as well as field trips, thematic seminars.

Thus, the current approach to the management of an educational organization on the example of the Ufa State Petroleum Technical University shows high efficiency, allows planning strategic goals at the level of operational management and offers a system of operational control to achieve strategic goals and coordinate the main and auxiliary processes. Such a system allows for a high level of vocational-oriented employment.

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